

Highest Award, World's Fair, 1893.

The JACKSON

1895-6



VENTILATING  
GRATE<sup>8</sup>

EDWIN A. JACKSON & BRO:  
No. 50 Beekman Street, New York. U. S. A:

"THE CHEAPEST OF ALL GOOD SYSTEMS OF HEATING."

## SANITARY VALUE IN VENTILATION.

" Ramsey County Court House and City Hall }  
Special Commission,  
St. Paul, Minn., Jan. 9th, 1890. }

It gives me pleasure to state that the 90 ventilating Grates furnished by you for the New Court House and City Hall at this place have not only met our expectations, but have far exceeded our anticipations in the amount both of heat and ventilation they furnish to the immense structure in which they are used.

Very Respectfully,

DAVID DAY."

The Grates furnished for the New York State Institution for the Blind, at Batavia, fully meet all required of them.—DR. M. W. TOWNSEND, Bergen, N. Y.

The air of the four Hospital wards supplied with these Grates is always pure and fresh.—HENRY M. HURD, Med. Supt. Eastern Michigan Asylum, Pontiac, Mich.

The five Jackson Ventilating Grates used in the Hospital and Nursery of the "Retreat" and children's room of the "Day Nursery" are powerful heaters and admirable ventilators. I think they are the best grate, where heat and change of air are desired, I ever saw used.—Hon. JOSEPH PERKINS, Chairman Ohio State Board of Charities, Cleveland, Ohio.

The extraordinary freshness and purity of the air, and withal so pleasantly heated, is so obvious as to excite the attention of all and call forth their favorable comments.—Pres. JAMES L. CABELL, University of Virginia.

Cambridge, Mass., Feb. 21, 1890.

I am more than pleased with your Grates. I have three of the 'Concord' pattern, each heating a room 25x22½ ft., the rooms being one above another. To-day the thermometer was at 6° in the morning, 15° at noon and 10° at 8 P. M., with a high N. W. wind, and without any other heat my study has been comfortable all day and I have only touched the fire once. There is no furnace heat either in this room nor in the adjoining hall.

One of the upper Bed-rooms has been a sort of hospital for two months with three children successively passing through "grip" and measles. I don't know what we should have done at all without your Grate. The air of the room has been *absolutely* pure all the time, the windows have hardly ever been opened, and nowhere has there been a draft.—WM. JAMES, M. D., Prof. of Philosophy, Harvard College.

## HEATING ON TWO FLOORS.

My two Parlors, each 14x16 ft., and a Bed-room above, have been heated by one Grate, and with less fuel than would be required with stoves.—S. R. GODDARD, Lockport, N. Y.

The Ventilating Grate in my Dining-room heats also the Nursery on the floor above. Both rooms are 20 ft. square, and are on the northwest corner of my house, on the brow of Lenox Hill.—EVERETT P. WHEELER, New York City.

One of the Ventilating Grates is in the front Parlor and warms the room above. The other is on the north side of the Sitting-room (18 ft. square) and warms two rooms above.—B. F. MOORE, Pres. La Belle Wagon Works, Fond du Lac, Wis.

My Oliver Grate abundantly heats the Dining-room Chamber and adjoining halls and stairway.—D. F. BARKER, Concord, Mass.

The Jackson Grate heats my Library and a Bed-chamber over it, both exposed to the north and west. The rooms are also well ventilated.—Hon. (Judge) WM. McCLEAN, Gettysburg, Pa.

I have simply to say that the Grate is splendid, and I regret that I used any other Grate than yours. Compared with it the Baltimore heater is an abomination.—E. CORT WILLIAMS, Esq., Cincinnati, Ohio.

I am heating a Parlor 16x18 ft., a Library 11x14 ft., and have an air pipe leading to two rooms above, either of which I have been able to heat in good shape during the coldest weather, by closing the register to one of them.—M. SCHENCK, C. E. (New York State Canals, Engineering Department), Albany, N. Y.

The Grate in my Sitting-room heats also my Dining-room and a room on the floor above. It uses about the same fuel as an ordinary base burner.—A. F. EBY, Cashier Elk Co. Bank, Howard, Kansas.

I have three Jackson Ventilating Grates, one in a west room 13½ ft. x 28 ft., one in an east room 14 ft. x 24 ft., and one in a southeast room 13 ft. x 17 ft., the latter open to the hall. Each Grate heats also the room over it. Our weather has been some days at 10° and 20° below zero.—Hon. MYRON A. MCKEE, Richfield Springs, N. Y.

The Grate is heating my Dining-room, 24x16 ft., on the lower floor, and a Bed-chamber of the same size on the second floor. The rooms are exposed on the north, east and south.—ROBERT J. BELT, Wells Whip Co., Wells-ville, Pa.

## ITS WORK IN COLD CLIMATES.

With the thermometer ranging from zero to 30° below, the Grate has thoroughly heated and ventilated our Sitting-room, 24 ft. x 18 ft. x 14 ft.—S. B. AMORY, Fond du Lac, Wis.

From 10th of January till spring the Ventilating Grate alone heated my Sitting-room, with large bay window, and Bed-room off Sitting-room. It has been a very cold winter, but I have not used a furnace.—CHAS. A. BLACKMAN, Wholesale Lumber, West Bay City, Mich.

Your Grate in my house at Waddington, on the right bank of the St. Lawrence River, latitude 45° north, heats a room 15 ft. x 18 ft., with large bay window, and a room of the same size above. To-day (Feb. 6th, 1885), the thermometer outside marks 18° below zero; the room where the Grate is placed is at a summer temperature.—H. W. PRATT (Collector's Office, Custom House), Ogdensburg, N. Y.

The Ventilating Grate, during the entire winter, has warmed and ventilated our Sitting-room (18 ft. x 15 ft., 11 ft. high) and a Bed-room above 12 ft. x 12 ft.—CHARLES CHURCHILL (Clerk of Circuit Court), Waupaca, Wisconsin.

As a heater and ventilator it could not be better. We are heating with it our Office, a large and exposed room. In our coldest weather the Grate has capacity for heating more, if we needed it.—Hungarian Roller Flower Mills, Waterloo, N. Y.

The room heated by your Grate alone is 17 ft. x 19 ft. x 10 ft. 6 in. and is exposed on the north, the east and south.—J. R. EATON, Orillia, Ontario.

The Concord Grate thoroughly heated my Dining-room, 22 x 16 x 11 ft., when the thermometer registered 35° below zero.—VICTOR S. BENEDICT, Titusville, Pa.

You Grate heated my room 25 x 20 ft. perfectly in the coldest day this winter, 25° below zero.—J. A. BULLEN, Leavenworth, Kas.

The Jackson Grate heated my room (17 ft. x 14 ft.) so that we had no trouble in keeping plants thrifty, with the mercury 25° below zero.—F. B. MILLS, Editor *Lincoln (Ill.) Herald*.

Your Grate heated a room 24 x 20 x 11 ft., with a north and east exposure, very comfortably in our coldest weather, which has been from 15° to 20° below zero.—WM. FISHER, Utica, N. Y.



## ITS ECONOMY OF FUEL.

About 250 bushels of coal have more thoroughly heated my rooms this winter in your Grate than 550 bushels did last winter in a stove and an old-fashioned Grate.—WM. L. BARKER, Boonsville, Ind.

The amount of fuel used in your Grate is no greater than that used in the Argand Base-burner on the other side of my house. The Grate heats two rooms.—H. E. MILLS, St. Louis, Mo.

The Oliver Grate heats my Parlor, 16 ft. x 16 ft. and Chamber over 14 ft. x 14 ft. Does not use half as much fuel as the ordinary Grate I had.—THOS. F. BYRNES, Emporia, Kas.

A ton of fuel lasted between five and six weeks in mid-winter in your Grate, heating a room 21 ft. x 15 ft. x 11 ft.—B. BOWMAN, Chambersburg, Pa.

I have run the Grate night and day for four and one-half months, heating a room 24 ft. x 18 ft. at times when the thermometer was 30° below zero, and have not used all of the 3½ tons of hard coal I bought in November.—S. B. AMORY, Fond du Lac, Wis.

The Grate is in the office on the fourth floor, northwest corner of the building, a room 21 ft. long, 10½ wide x 12½ ft. high. There is no other heat in the room. In the two and one-half months 1¼ tons Cannel coal have been used.—FREDK. LOESER & CO., Brooklyn, N. Y.

My office is in size 28 ft. x 16 ft. I have used red ash (Schuylkill) coal, and less than half a ton a month, and have more heat than is desired.—H. K. BUCKWALTER, Conveyancer, West Chester, Pa.

The consumption of fuel in your Grate is less than in the one I removed, the temperature in the room where the old Grate was is much higher, and a room on the floor above is warmed with the extra heat, whilst the room is free from drafts.—C. W. BODY (Sugar Creek Salt Works), Canal Dover, Ohio.

A room 22 ft. x 18 ft. and a Dressing-room adjoining, 12 ft. x 8 ft., have been thoroughly warmed day and night by two scuttles of soft coal per diem. Two tons of Briar Hill coal have been used in four months.—Mrs. MORSE STEWART, Detroit, Mich.

## USE OF GRATE FOR FALL AND SPRING HEATING.

We use a Grate for fall and spring heating, and it saved building a fire in our furnace last fall until December, and during the fall it was much more satisfactory for heating the house than the furnace.—J. E. ROGERS, Binghamton, N. Y.

In the spring and fall I have no difficulty in heating my Library, Parlor, Dining-room and Halls up-stairs and down, and thus dispense with the use of my furnace, except during the winter months. The Grate is in the corner of the Hall.—J. MORRISON (of A. T. Morrison & Bros.), Braintree, Mass.

In the fall and spring, when I do not run my furnace, I use the Grate for heating three rooms, one 16 ft. x 16 ft., one 15 ft. x 15 ft., and one 12 ft. x 13 ft., all with north and west exposure.—GEORGE H. STOWELL, Claremont, N. H.

One Grate is in my Stair-case Hall in a four-story house, and it serves the admirable purpose of tempering the air of the whole house in fall and spring without furnace heat.—FRANK E. DAVIS, Archt., Baltimore, Md.

Until we started the steam heat in November the Grate kept sufficiently warm the Sitting-room, Parlor, Main Hall and Bed-room.—FRANK HILL, Tilton, N. H.

We enjoy the Grate spring and fall, not using the boiler over four months. The saving of fuel is very marked.—ISAIAH DOW, Woolen Mills, Hinesburg, Vt.

We use the Ventilating Grate alone for heating during October and November. It is a marvel of perfection.—Dr. F. M. Sisson, Williamsport, Pa.

My furnace is kept with a very small fire, as the Jackson Grate furnishes so much heat. I believe I economize greatly in fuel by use of the Grate in connection with the furnace, as has been illustrated by the experience of a friend, who has found it necessary to buy more than double the amount of fuel I have to heat the same number of cubic feet of space.—J. H. PENNIMAN, Battle Creek, Mich.

## WITH NATURAL GAS.

My client, for whom I bought the Jackson Ventilating Grate, says it is wonderful how well it heats and ventilates. He has heated the Sitting-room, 15 x 18 ft., Dining-room 12 x 16 ft., warmed a Bed-room on the first floor 15 x 16 ft. and a Bed-room over the Sitting-room 15 x 17 ft., with one Grate. The fuel used is Natural Gas.—WATSON A. BROWN, Archt., Wellesville, N. Y.

We use Natural Gas as fuel, and the Grate heats three rooms on the first floor and three rooms on the second. The thermometer has been 20° below zero this winter.—JACOB RAUBER, Jr., Wellesville, N. Y.

The Ventilating Grate gives me the greatest satisfaction; more, in fact, than any other heating apparatus I have ever tried. I use Natural Gas for fuel, and in the coldest weather we have had these two winters I found no difficulty in maintaining a temperature above 70° in two good-sized rooms down-stairs, and more than 65° in my Bed-room just above. As a ventilator the Grate surpasses anything I have ever seen. It keeps the air in my rooms as pure and fresh as if the windows and doors were wide open, day and night. I am quite satisfied it has saved me from many a "home-made" cold.—REV. JAMES J. McTIGUE, Rector St. Malachy's Church, Pittsburgh, Pa.

The rooms where the two Grates are placed are each 18 x 17 ft. Communicating with these by the hot air supply from below, are the following rooms on the second floor, viz.: one room 12 x 14 ft., two rooms each 12 x 16 ft., one 10 x 8 ft., one 14 x 12 ft., and a bath-room 14 x 12 ft. In the whole upper story I have not had a fire lighted this winter; in fact, no room on that floor, except the 12 x 14 ft. room, has a grate in it. We have found the up-stairs always warm and well-ventilated, and very regular in temperature, and we could have had it much warmer if we had wished it. We use Natural Gas for fuel and have never used the full supply. The ventilation is splendid. With windows and doors tightly closed we do not notice the slightest smell of gas fumes or impure air.—H. JARVIS, Sharpsburg, Pa.

IT is acknowledged by all authorities on the subject that the only healthful fires are those of the open fire-place. Apart from the cheerful, exhilarating influence of the open fire on the household gathered about its hospitable hearth, it is well known that radiant heat direct from the surface of burning fuel possesses a comfort and health-maintaining power that no other form of heat can supply. For this reason the open grate has always been a favorite in our homes, and it is only because in the ordinary form it is such a great consumer of fuel, and so feeble in its heating capacity, that it has been supplanted by other more economical kinds of heating apparatus.

In the construction of the Jackson Ventilating Grate it will be seen that this defect has been avoided, and an economical method of heating has been secured, without the least impairment of the properties of the open fire-place. The Jackson Ventilating Grate has all the exposed fire surface of the common grate, thus being unsurpassed in the amount of its radiant heat, as it is unequalled by any in its amount of conserved heat.

Another charm of the open fire-place is in its office as a ventilator of dwellings. Gen. Morin says that in a room of 20 feet square and 12 feet high, heated by an open grate, "with a good fire, the air would be removed four or five times an hour with a moderate draught of the chimney, and six or eight times with a blazing fire." How utterly impossible is it in a room thus heated to suffer from vitiated or impure air! But, unfortunately, with the common grate, the supply of air to meet this draught must enter the building through the cracks and crevices surrounding the doors and windows, and it comes into the room at times freezing cold from an atmosphere many degrees below zero.

Think of the fact that in a room thus heated with a blazing fire, 38,400 cubic feet of frigid atmosphere enters every hour, and must be

heated—as far as it can be heated—by 12½ per cent. of the whole heat product of the fuel employed, whilst ⅘ of this much-to-be-desired heat passes uselessly out of the chimney!

With the Jackson Ventilating Grate, the doors and windows might be made, if possible, air-tight by weather-strips and double sash; yet the air of the rooms would be kept constantly fresh and pure, being changed entirely every twenty or thirty minutes by a supply of invigorating, pleasant and warm air from the heat-saving and ventilating chambers of the Grate. Even if doors and windows are badly fitted, when rooms are heated by this Grate there will be no perceptible draughts from them, as the room is kept constantly filled with warm air from the inflowing current from the Grate, that never ceases while there is fire in it. Air being thus supplied in sufficient quantity to meet the draught of the chimney, in cases where the latter is defective, there is much less liability to smoke, an object also partly secured in the mechanical construction of the Grate.

A valuable feature in these Grates is that, in consequence of the circulation of a current of air over the inner surfaces of the iron shell which forms the back and the sides of the basket in which the fire rests, these surfaces cannot be warped and broken by the action of the fire, and the Grate thus is practically indestructible and will last a lifetime. It is a well-known fact that all ordinary forms of grates soon burn out and need repairs, and after a winter's use their linings are so disfigured with the action of the fire that they present unsightly niches in summer, which are usually hidden by so-called summer-pieces, that impede in all cases, and frequently prevent entirely, the ventilating effects of the open grate. In the Heat-Saving and Ventilating Grate, a simple coating in summer of the smooth iron back of the fire-place with British luster renders it presentable in appearance, and does not interfere with its office as a constant ventilator.

## Patterns.

The Heat-Saving and Ventilating Grates are made in two distinct forms, as herewith described.

### 1ST. "CONCORD" PATTERN.

This form of the Heat-Saving and Ventilating Grate is constructed for uniformly heating and ventilating large rooms, and those that are in exposed situations, as are those in most country or village houses, and which the common form of grate, with an equal consumption of fuel, would be entirely inadequate to heat. It is adapted for burning hard or soft coal or wood. It has the full open front or fire-place, and the beauty, cheerful effect and full radiating power of the ordinary grate, combined with more than three-fold the heating capacity of the common grate.

The construction of the grate is such that it is a constant ventilator in all seasons. In winter, with a full fire and with the doors and windows effectually closed, the whole atmospheric contents of large rooms are replaced by pure warm air every twenty or thirty minutes. For bedrooms, or for rooms communicating with bedrooms, these Grates provide the most perfect automatic ventilation, maintaining a purity of atmosphere in them not sensibly less than that of the open air, with the entire absence of the unpleasant and unhealthful draughts that accompany the usual modes of ventilation.

### 2D. "OLIVER" PATTERN.

This form of the Heat-Saving and Ventilating Grate is so arranged that the heat conserved in the chambers surrounding the fire can at pleasure be turned, in whole or part, into a room on the floor above that in which the Grate is placed, or may be added to the full radiant heat of the open fire to rapidly and thoroughly heat the room containing the Grate. It will thus comfortably heat two ordinary rooms in the most severe winter weather; or will thoroughly heat a large room below, and comfortably warm a chamber above, thus doing the work of three or more ordinary grates with the fuel expenditure and care of one.

## Description of Finish.

(1) *Lustered finish* is that given to ordinary stoves. It is especially adapted for office grates where utility chiefly is the thing desired.

(2) *Rustless finish* is that produced by oxidizing iron, by which the surface is converted into the magnetic (or black) oxide. The surface thus treated takes a dead-black hue, which is pleasing in appearance, and is not liable to change by use or exposure.

(3) *Black Enamel finish* is an enameled, jet-black glossy surface, given by the application of successive coats of japan, that are baked on by the heat of an oven adapted for the purpose. As the frames of the Ventilating Grates are protected from injury by outdoor air, this finish is much more durable than in ordinary grates.

(4) *Nickel-plated finish* is the result produced by heavily nickel-plating the finely crocus-polished surface of the metal, and thereafter highly polishing the nickel surface. In designs like Nos. 46 and 50 of modeled ornamentation the bas-relief figures, richly shaded, appear as upon a highly chased dead-silver surface. The nickel-plate is far better than is usually given.

(5) *Electro-bronze finish* is produced by electro-bronze plating the highly polished metal. This finish may be made of a dark or a light copper-bronze color. The intaglio ornamentation in the designs Nos. 20 to 30 are of a darker shade.

(6) *Ebony finish*. The appearance of this finish is well described by its name, as it looks like a finely polished piece of ebony carved as per design. It is one form of the rustless process and has the merit of being exceedingly easy to keep in order, as it will not rust nor tarnish even when exposed to a sea-side atmosphere. Designs Nos. 50 and 65 are especially handsome in this finish.

(7) *Brass or bronze finish*. These are solid castings of either brass or bronze, and they may be, as directed, finished in a perfect polish, or in any style of old brass or antique bronze. For durability, elegance of appearance, and excellence of workmanship, they are unsurpassed.

(8) *Silver-plate* is well known to everyone, and the finish on the grate frames is equal to that given the finest silverware. It may be polished, antique or dull finish.

NOTE.—In all finishes excepting No. 1, the basket and crown are nickel plated or rustless finish, as preferred. The fender plate is either nickel or rustless, and the fender bars are brass or nickel, except with finish No. 1.



## Directions for Ordering.

In ordering please state :

1st. Whether you desire a Concord or an Oliver pattern.—See description.

2d. Size of grate required as designated by the number.—See description of sizes.

3d. Style of finish—whether lustered Rustless Berlin black, Nickel-plated, Electro-bronze, Ebony, Brass, or real Bronze.

4th. Style of frame and basket required as designated by the number of the plate.

5th. Whether the grate is to be adapted to an ash-pit, or to be used with an ash-pan.

## Directions for Setting the Grate.

(See plates Nos. 3, 4 and 5 for methods of obtaining the air supply.)

It is absolutely necessary that these Grates should be supplied with an inlet for fresh air from outdoors, else they are not superior to ordinary grates either as heaters or ventilators. With every shipment of grates, or upon application at any time, we mail a templet with special directions for setting the Grate, by which any ordinary bricklayer can easily perform the work. No special flue need be built, as the Grates can be set in any fire-place that can be made 28 inches wide by 33 inches high, with a flue not less than 8 inches by 12 inches (or 8 inches by 8 inches, if for a Concord Grate).

To those building new houses, the plans of flues given on Plates No. 6 and No. 7 show how one of the Ventilating Grates can be arranged to heat rooms on two floors, and to ventilate thoroughly the rooms thus heated and the cellar also.

N. B.—Never take the air supply from the room in which the Grate is set. If this were done, the Grate would be no more efficient than a stove for ventilation. Any apparatus that secures its air supply from the room gives heat at the expense of ventilation, and it is usually because the apparatus has not the power to warm outdoor air.

## Sizes.

NO.	Outside of Frame.		Basket or Grate Opening.		*Fireplace to Receive Grate.		
	WIDE.	HIGH.	WIDE.	DEEP.	WIDE.	HIGH.	DEEP
0	27"	33¼"	18½"	12½"	24"	33"	14"
1	30½"	33¼"	22"	12½"	28"	33"	14"
3	32½"	33¼"	24"	12½"	30"	33"	14"
5	40½"	33¼"	32½"	12½"	37½"	33"	14"

\*The brickwork should be twelve inches deep, the tiling adding two inches, making fourteen inches clear.

## Important Questions Briefly Answered.

It is easily set by any ordinary workman. Directions for setting accompany every Grate.

It needs no special construction of flues. One flue carries smoke and hot air pipe.

It can be set in any ordinary fire-place.

It works admirably with any kind of fuel.

It is more safe in wood mantels than any other grate.

Its air supply being not overheated is far more pleasant than that of a furnace.

It keeps fire from fall till spring and will run over 24 hours without any attention.

There are no cold air drafts as in ordinary grates.

It can be arranged to heat a room back of the grate.

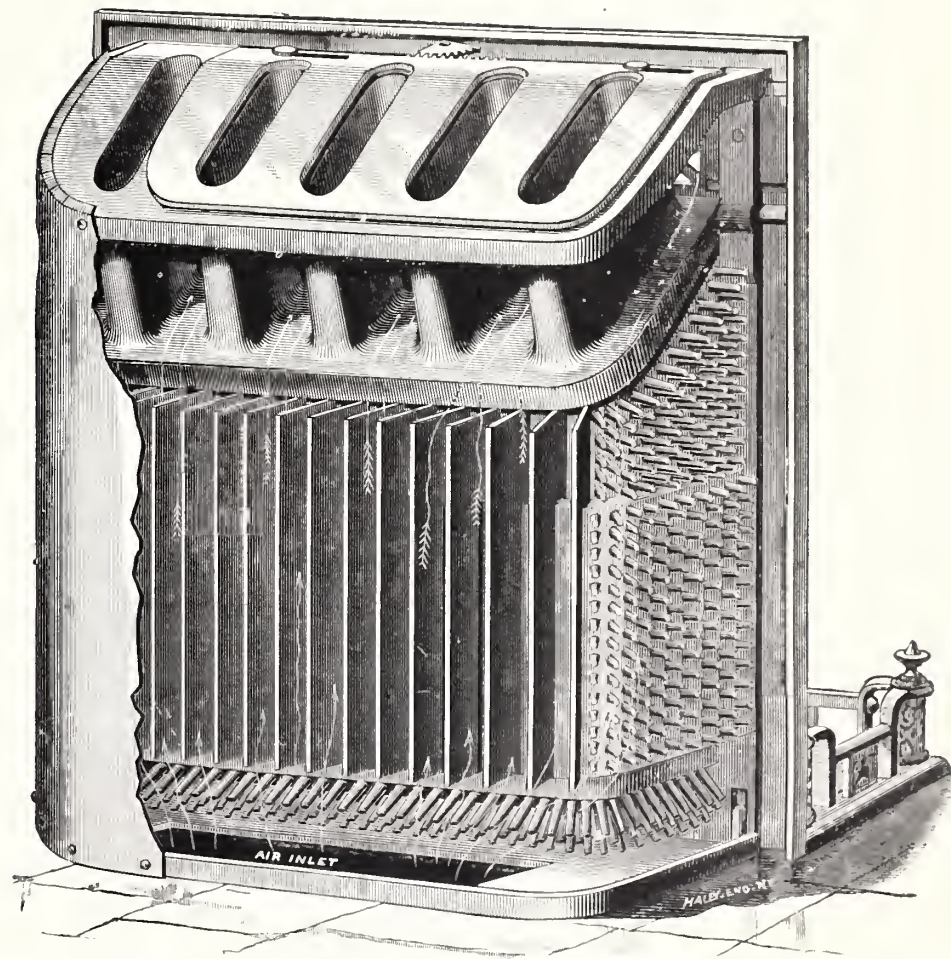
The first cost of a sufficient number of grates to heat a house is less than a furnace that will do the same work.

They will heat a house with a far less expenditure of fuel than a furnace requires.

They are surpassed by none in the world in excellence of finish, beauty of designs and perfection of mechanical work.

## The Jackson Ventilating Grate.

THE adjoining cut shows the construction of the heat-saving chambers in the Jackson Fire-place, the outer shell being in part broken away. Pure air from outdoors is admitted through the opening shown in the base of the cut, and is distributed by the heated spurs there represented to the chambers directly back of and on the sides of the fire. From these chambers the now partially heated air enters the chamber shown at the top of the cut, through which the five smoke-flues are seen to pass. These also imparting a large portion of their heat to the passing current, its temperature is raised to 100 degrees or 180 degrees (according to the intensity of the fire and volume of air admitted), and it now passes a current of pure air either directly into the room through the openings shown in the frieze of the Grate, or, at the option of the owner, up the pipe (a section of which is shown in Plate No. 2 with its valve opened) to a room on the floor above. In these chambers there are  $15\frac{2}{3}$  square feet of radiating surface. The chambers are separated from the fire by a cast-iron shell that has no joints for leaking gas, the upper chamber, with its tubes, being cast solid, in one piece, and this shell, surrounded as it is by air-chambers, can never become intensely heated, and thus liable to burn out. The Grate will accomplish more heating than four ordinary grates of the same size, will thoroughly heat large rooms, and will perfectly ventilate them.



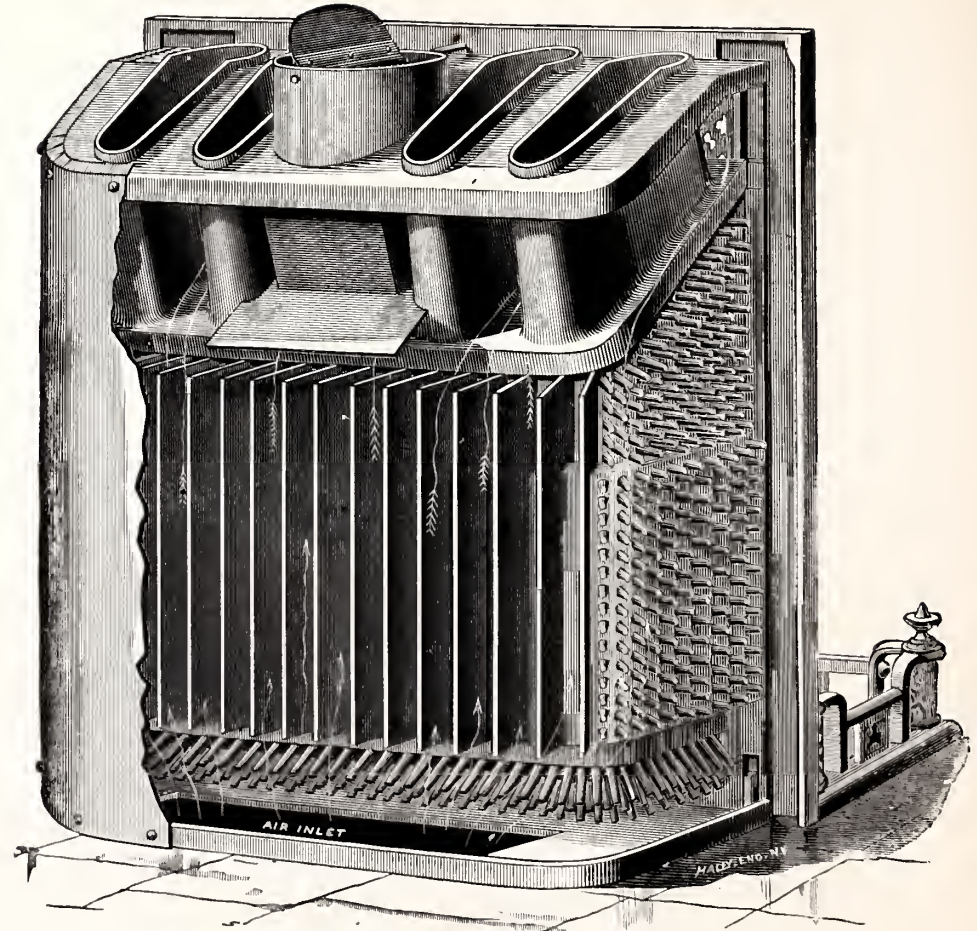
Rear view of Concord pattern of the Jackson Ventilating Grate.  
(With outside galvanized iron covering partly broken away to show interior construction.)

Scale,  $1\frac{1}{2}$  inches to the foot.



## The Jackson Ventilating Grate.

THE annexed cut shows the construction of the heat-saving chambers in that form of the Grate which is intended to heat rooms on different floors. By an inspection of the cut, it will be readily seen that the air, directly admitted from outdoors through the opening shown at the base of the cut, after becoming heated by circulating through the chambers, as described in Plate No. 1, passes through the valved opening at the top of the cut, and thence by a pipe (see section, Plate No. 5) to the room on the floor above that in which the Grate is set. Closing the valve, wholly or in part, the conserved heat may be entirely or partially added to the heat of the room below. There is a damper (not shown in the cut) that closes over the smoke vents to regulate the draft.

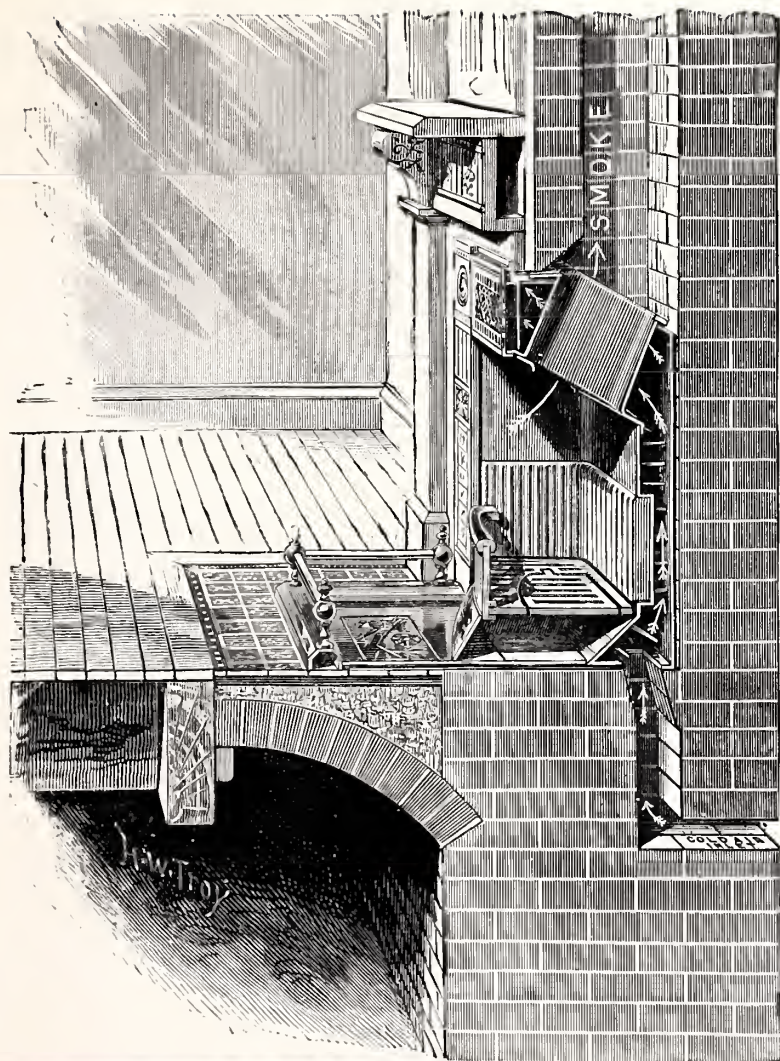


Rear view of the Oliver pattern of the Jackson Ventilating Grate.  
(With outside galvanized covering partly broken away to show interior construction.)

Scale,  $1\frac{1}{2}$  inches to the foot.



PLATE No. 3.



Section showing Grate adapted to an Ash-Pan.

Scale,  $\frac{3}{4}$  inch to the foot.



Section showing Grate when used with an Ash-Pit.

Scale,  $\frac{3}{4}$  inch to the foot.

SECTIONS OF THE VENTILATING GRATE SET IN AN EXTERNAL WALL.



### Plate No. 5.

This cut shows a section of the Oliver form of Ventilating Grate. Air entering at the cold air inlet is heated as it passes over the back, and enters the room through the register in the front of the grate, and passes also to the room on the floor above. The heat may all be turned upstairs if desired.

Two rooms on the floor above may be heated if they are not unusually large. The volume of warm air entering is equal to over 180 cubic feet per minute. This with the radiation from the fire will heat about 7,000 cubic feet of space in mid-winter.

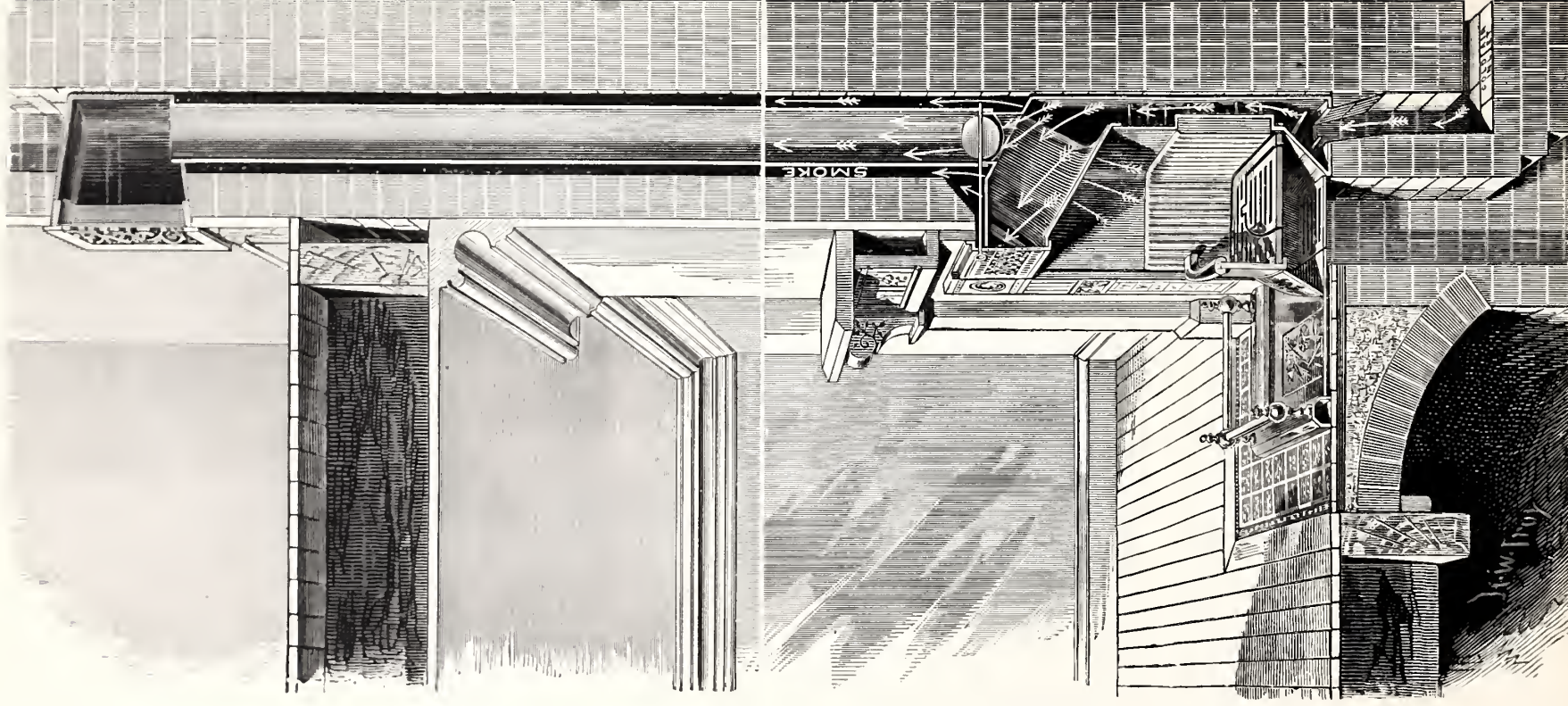




PLATE No. 7.

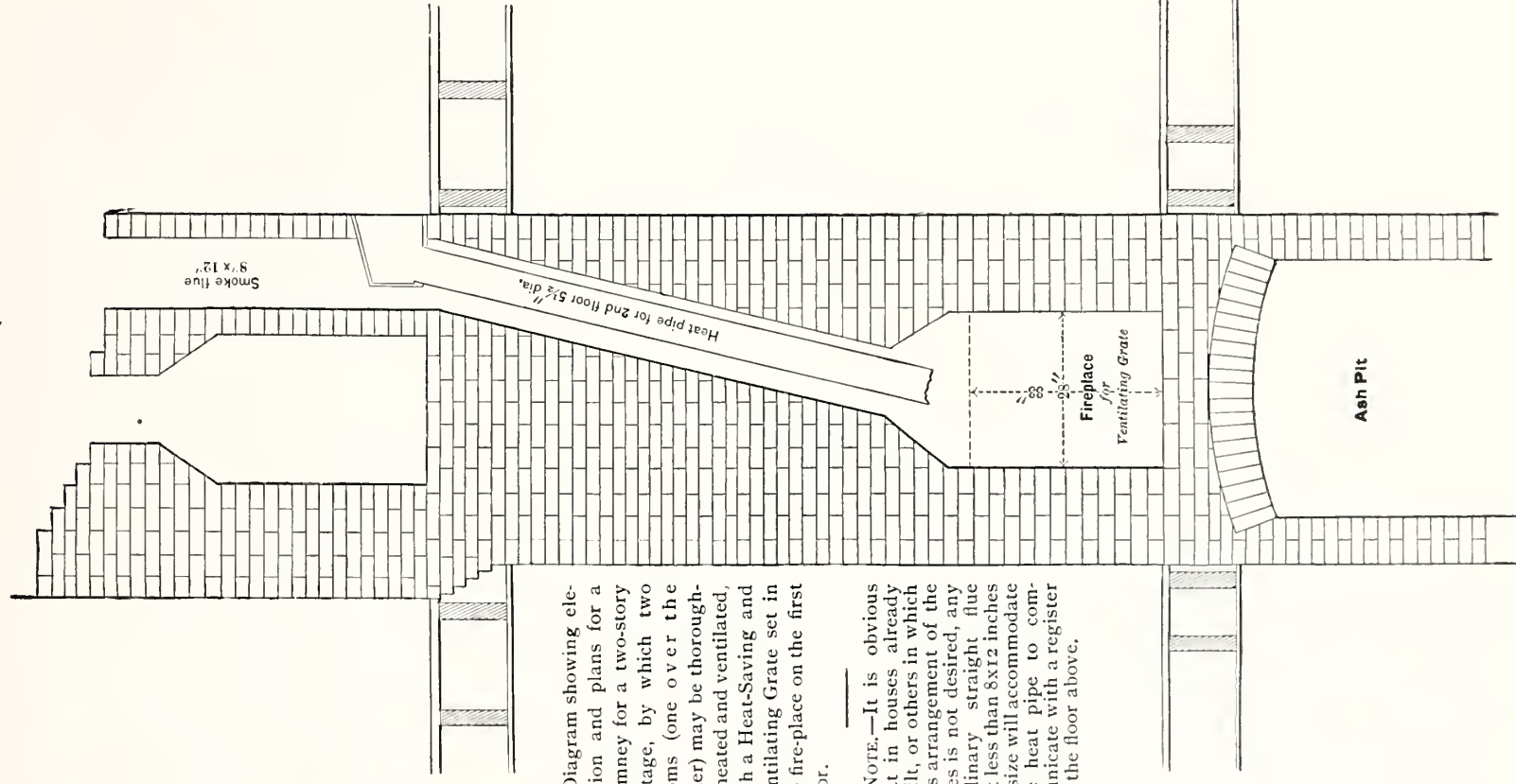
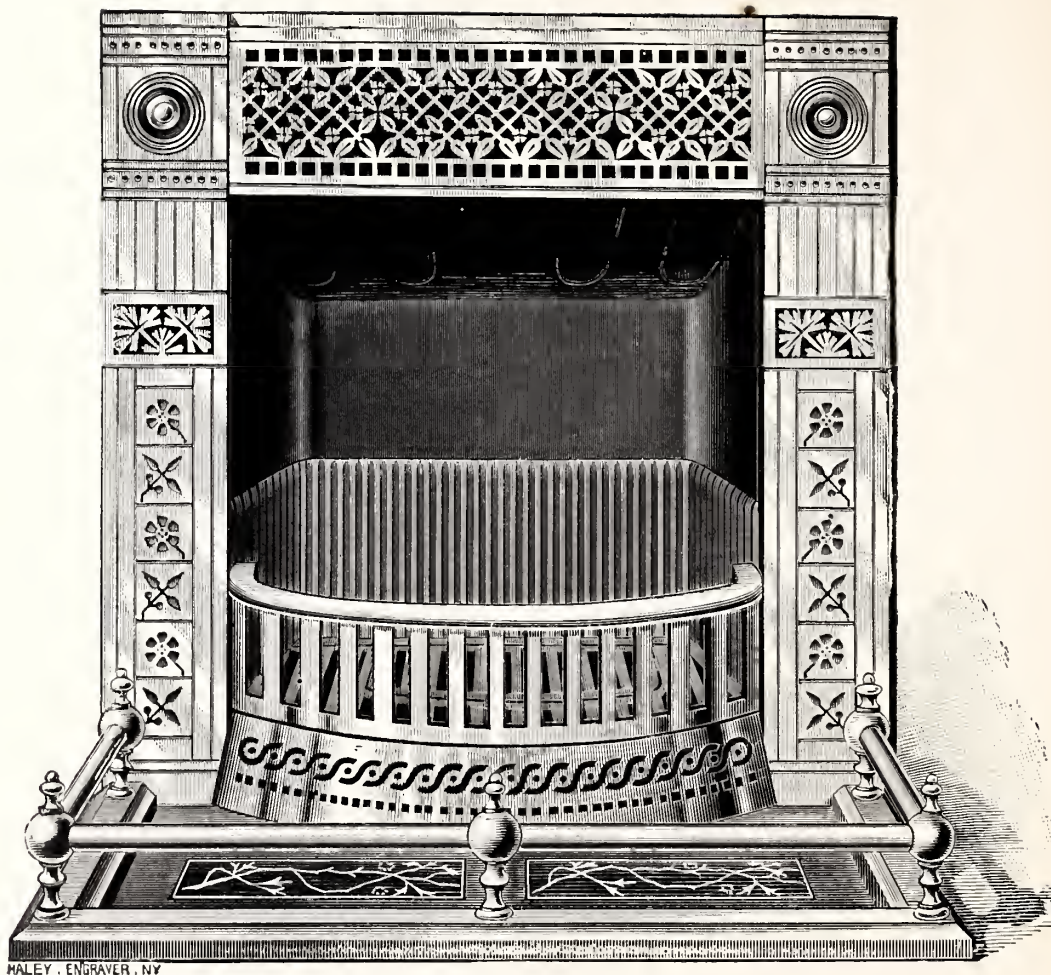


Diagram showing elevation and plans for a chimney for a two-story cottage, by which two rooms (one over the other) may be thoroughly heated and ventilated, with a Heat-Saving and Ventilating Grate set in the fire-place on the first floor.

NOTE.—It is obvious that in houses already built, or others in which this arrangement of the flues is not desired, any ordinary straight flue not less than 8x12 inches in size will accommodate the heat pipe to communicate with a register on the floor above.

## The Jackson Heat-Saving and Ventilating Grate.

A GRATE has been aptly called the lungs of the house, since it serves to force a current of air from the room in which it is placed, up and out of the chimney. But in the ordinary grate no provision is made for introducing fresh air into the room to supply the place of that exhausted through the flue, hence *cold* and often impure air is drawn in through crevices about the windows and around the doors, causing draughts, and chilling the air of the room. The Ventilating and Heat-Saving Grate avoids these faults by the admission of air directly from outdoors through an inlet into chambers, under, around, and above the fire, whence, after being thoroughly heated, it passes into the room as rapidly as the exhaust of the Grate requires. The room is thus kept constantly filled with pure, warm air, in every sense conducive to health and comfort; its atmosphere is kept at an equable temperature in all its parts, and a very large percentage of the heat that is usually lost in the brick-work of the fire-place, and which is equal to nearly three times that of the direct radiation of the ordinary grate, is arrested and utilized by its addition to the radiant heat of the Grate. See sectional view and description on Plates 1 and 3.



Front View.

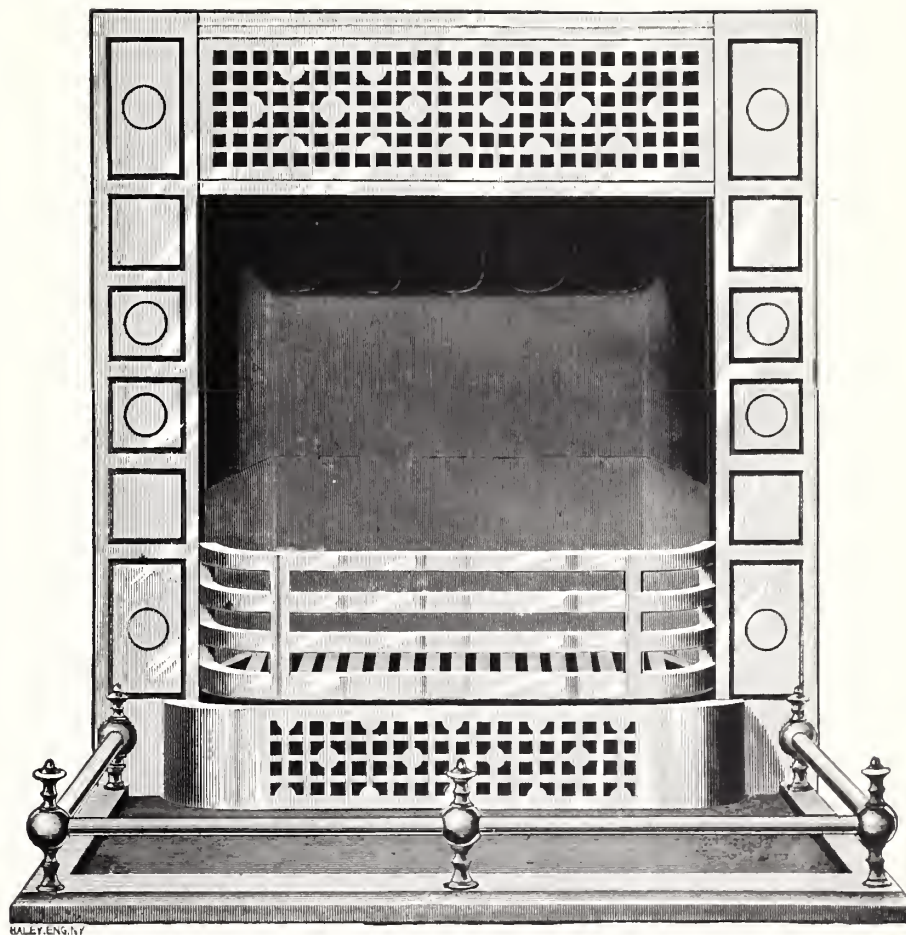
Scale,  $1\frac{1}{2}$  inches to the foot.



PLATE NO. 21.

### Use of Grates in Houses Heated with Steam.

IN planning for very large houses, where it is proposed to use steam heat, and the most approved system of indirect radiation is selected, owners sometimes think it unimportant to give much thought as to the part that grates are to serve in the heating arrangements, but conclude that, as they will have plenty of heat from the steam apparatus, large, open, ornamental fire-places will best meet their needs. A very grave mistake is thus frequently made. In the first place, fire-places of enormous proportions are frequently built, which, when a fire is started in them, prove to lack sufficient draught, and hence they become worse than useless, in fact a constant source of discomfort. And where with such fire-places care has been taken to build also enormous flues, adequate to the demands of the fire-place, in service such fire-places become immense aspirators of air from the room that create cold and unhealthy draughts, with an enormous wastage of heat. Secondly, during the days of variable temperature in the fall and spring, grates of ordinary construction being at times entirely inadequate for comfortably warming the apartments, when the steam heating arrangement is started, it almost invariably is found that the heat thus afforded is too great, and discomfort arises from excessive temperature, that can only be allayed by opening windows for the heat's escape. Just here is manifest the great utility of the Jackson Ventilating Grate, that until winter weather is fully established, and after its intensity is past in the advent of spring, will thoroughly heat and ventilate many rooms, and which is easily controlled, so as to give a gentle heat, or a heat of greatest intensity. Thus not only is a saving of fuel effected that soon pays for the cost of the Grates, but a perfect comfort and healthfulness is secured, not otherwise attainable.



Front View.

Scale, 1½ inches to the foot.

## The Jackson Ventilating Fire-place.

RIGHTLY constructed Fire-places should and can be made to fill three essential conditions, that, named in the order of their importance, are as follows :

FIRST.—They should keep the rooms in which they are placed always filled with pure, circulating air. In winter this air should enter as a warm current, with a volume sufficient to change the whole air contents of the rooms at least every half hour. This volume should be adequate to fully supply the exhaust of the chimney, and thus to prevent any tendency to draughts of chilling air from the windows, or of impure air from other parts of the house, drawn under the doors.

SECOND.—They should be essentially heating apparatuses, fully competent to thoroughly warm the rooms in which they are situated, without the aid of furnace heat. To effect this result they must possess many times the heating power of ordinary grates, seven-eighths of whose heat is wasted in the chimney.

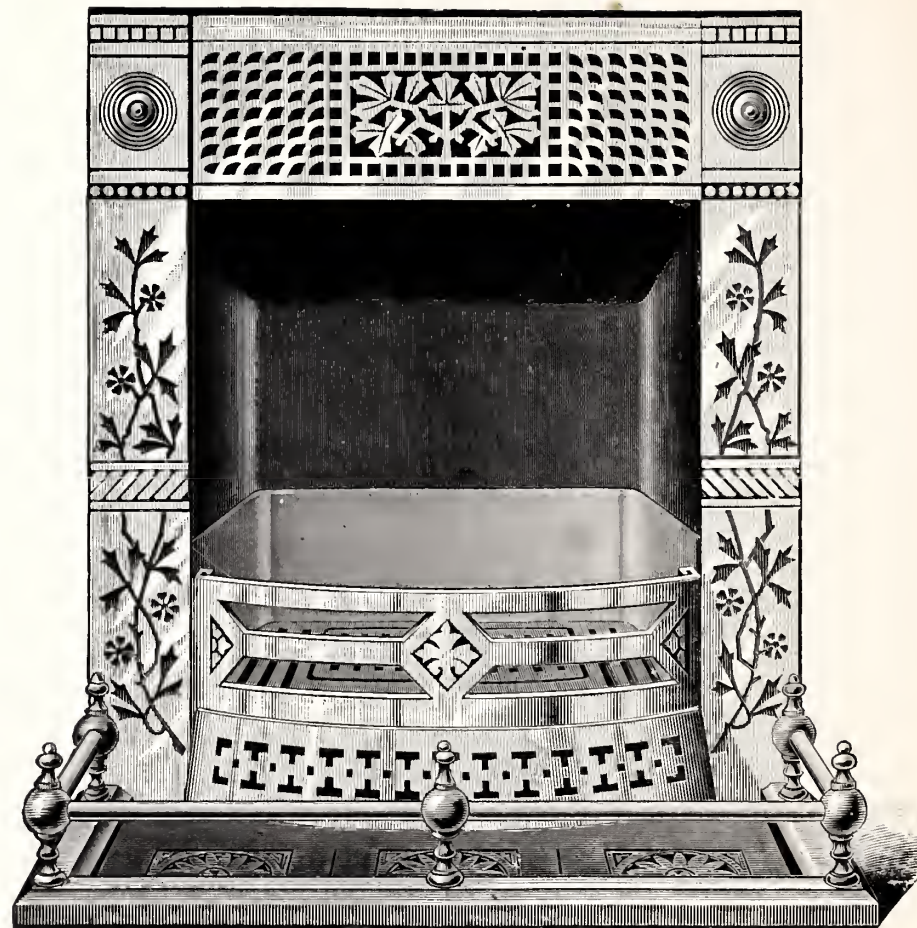
THIRD.—They should be large, generous fire-places, with their cheering, healthful, radiant, blazing fires, as near as may be similar to the famous fire-places of olden time.

The fire-places most in vogue now fill the last condition only—and in many cases fail even in this, being often liable to smoke, and deficient in power to produce a brilliant fire.

They obtain their whole supply for the chimney draught from air drawn in, piercing cold, from around the doors and windows, and they produce, thus, currents that are detrimental to health. Where this is prevented by close fitting doors and windows the fire-place must inevitably smoke.

They utterly fail to heat large rooms, since only about one-eighth of the whole heat product of the fuel is utilized for warming the room ; the rest being lost in the brick-work of the chimney, or dissipated up and through the chimney flue.

*The Jackson Heat-Saving and Ventilating Grate* fills all the three conditions named.



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.



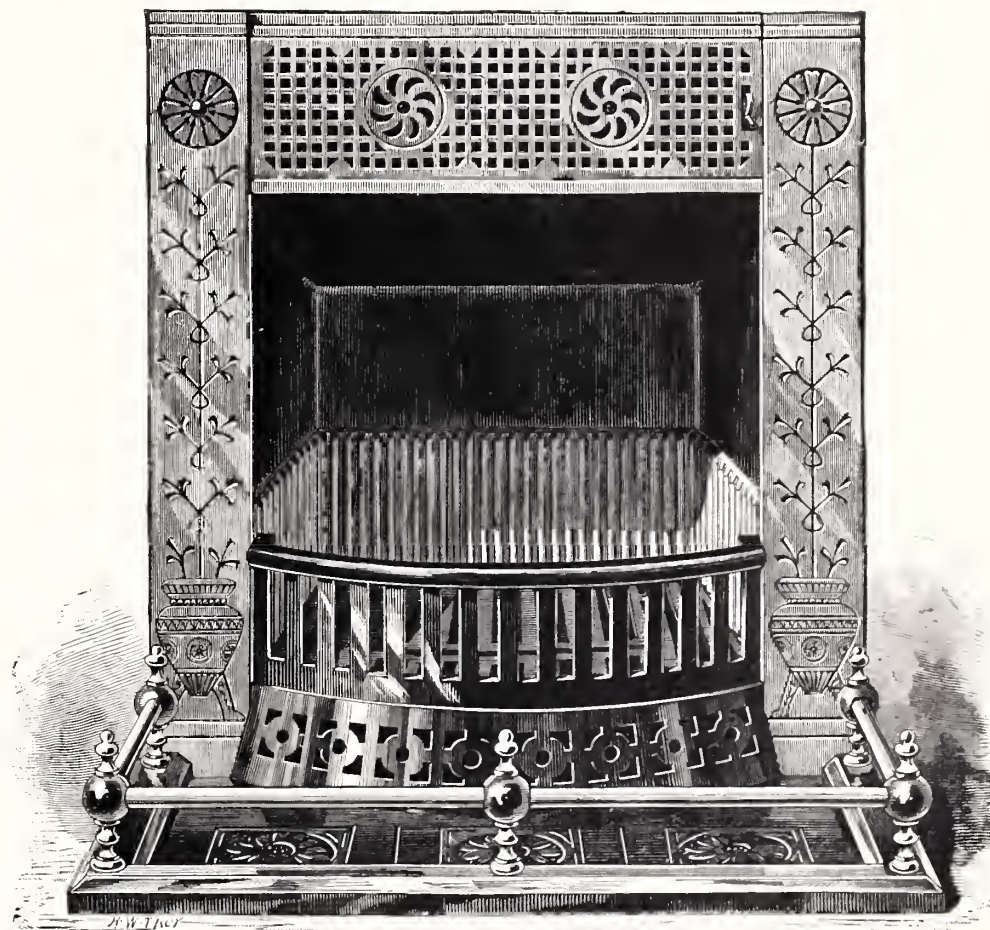
PLATE NO. 23.

**T**HERE are two prominent objections to the open fire-place, and to the ordinary form of fire-place grate :

**FIRST.**—Though they are excellent agencies for removing the air from the lower level of the room, they provide no means for supplying the vacuum thus produced, and thus they cause draughts of cold air about the windows, and of impure air from the surrounding rooms.

**SECOND.**—They supply to the rooms in which they are placed but a very small fraction of the whole heat product of the fuel. From the careful tests of Gen. Morin, the deduction is made "that of the heat generated by the fuel in an ordinary fire-place, about one-eighth only is utilized in the room."

The Jackson Heat-Saving and Ventilating Fire-Place largely remedies both these defects. As will be seen by a reference to the engraving on Plate No. 1, fresh air from immediate outdoors is taken into a shaft directly under the grate, and enters a chamber beneath the fire, where it is partially heated, and thence passes into chambers surrounding the back and sides of the fire-place, and it conserves in these the heat that is usually lost in the brick-work of the fire-place. Passing thence forward, this now heated current circulates about the tubular flues, five in number, shown in the cut, which convey the smoke to the chimney above. Finally, this heated air, which, it will be observed, is pure air from outside the building, enters the room through the open frieze of the grate frame, and from its levity ascends in a current to the ceiling. A double office is thus fulfilled. A very large part of the heat usually lost in the fire-place is conserved and added to that directly radiated from the fire, making the grate equal in heating power to over three ordinary grates of the same size ; and an amount of pure, warm air, equal to that taken from the room by the exhaust of the chimney, enters from the heat-saving chambers, and thus all draughts from the windows and doors are prevented. A continually augmented volume of pure, warm air, occupying the higher levels of the room, and a continual draught being made by the fire-place from the colder, impure air from the lower levels, keeps up a constant atmospheric circulation, and thus automatically the room is thoroughly ventilated.

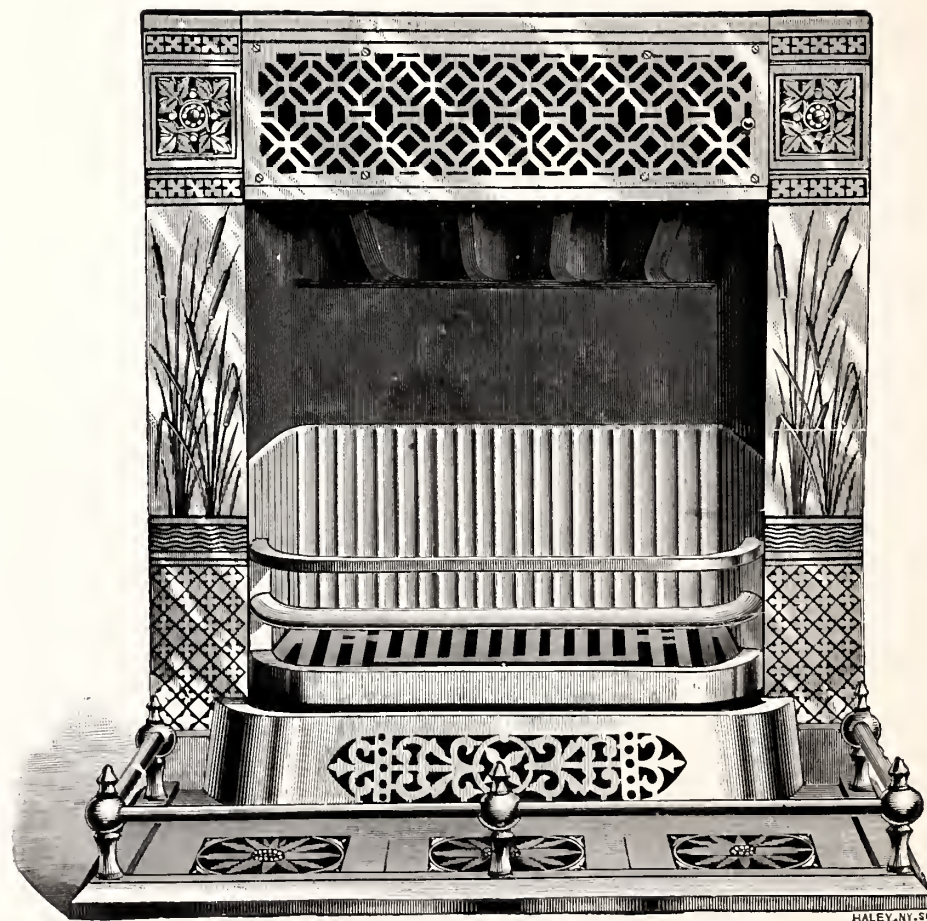


Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.

## Heating Power of the Jackson Heat-Saving and Ventilating Grate.

THE base, sides, back, and flues over the fire in these grates (as shown on Plates Nos. 1 and 2), which form the inner walls of the heat-saving chambers, present a radiating surface equal in area to  $15\frac{2}{3}$  superficial feet in the No. 1 and No. 2 fire-places, and to  $23\frac{1}{2}$  superficial feet in the No. 3 fire-place. All these surfaces would become red-hot if the heat received by them were not taken up by the inflowing current of pure air from outdoors, which thus returns the heat to the room in which the grate is set (if it be a Concord Grate), or to the room above that in which the grate is set (if it be an Oliver Grate). The heat thus conserved, as is shown by the test of the thermometer and anemometer, is more than equal to double the heat obtained from the direct radiation of the fire. It is obvious that this heat, thus utilized, is entirely lost in the fire-place and the flue in the ordinary form of grates. That is to say, that the fuel supply of an ordinary grate, when consumed in these grates, contributes to the rooms for heating purposes more than four times the amount of heat that the common grate furnishes. An ordinary grate would be taxed to its utmost capacity to comfortably warm a room 15 feet square, in almost any of our Northern States during the coldest weather; and even in such a small room thus heated, the parts of the room most distant from the fire would be subject to chilling draughts from the doors and windows. These draughts necessarily are present from the fact that the exhaust of the chimney is continually extracting air from the room, which can only be replenished by the air drawn in through the crevices around the doors and windows. The Heat-Saving Grate would *thoroughly* heat such a room, and also a room of equal size adjoining it, or another over it, and, in most locations, all three such rooms. Besides, it would prevent the chilling draughts alluded to, since it supplies to the rooms, through the heat-saving chambers, a continuous stream of pure, warm air, always equal in volume to that which is taken out by the chimney.



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.

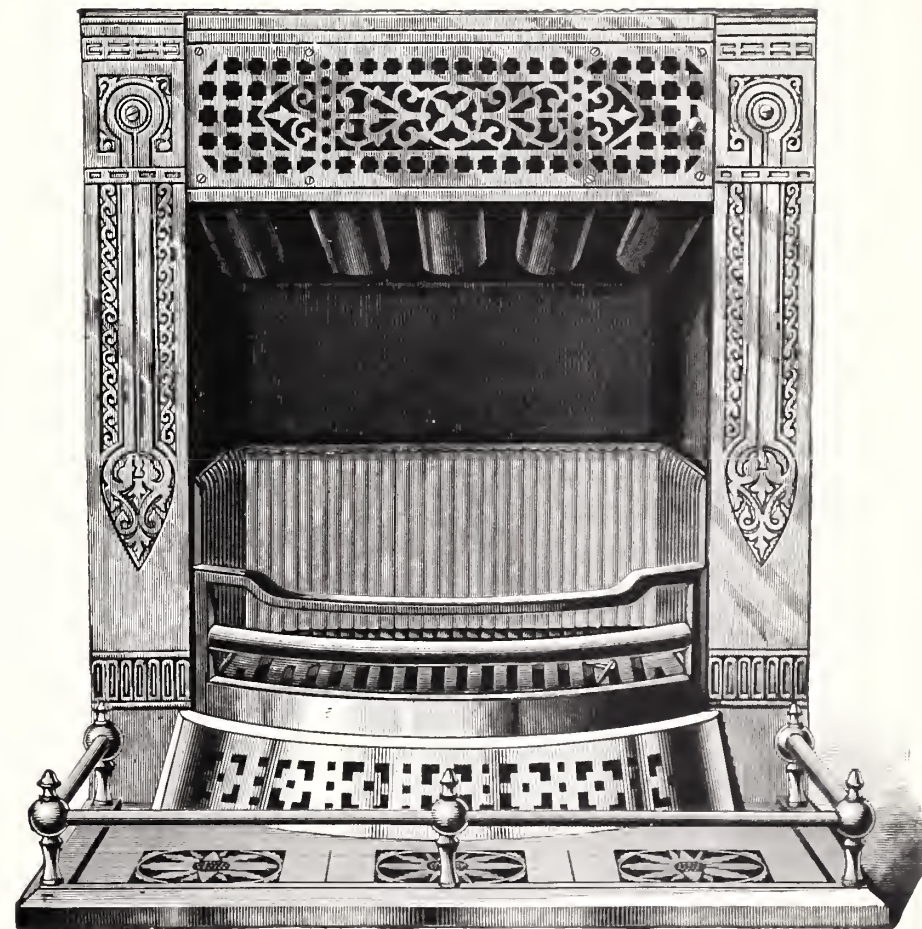
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## Ventilating Effects of the Jackson Heat-Saving and Ventilating Grate.

PLATE No. 25.

AN open fire-place in a room, connected with a heated flue, or a flue adjoining a heated flue, is almost always an aspirator of the air of the room. Even when there is no fire in the fire-place the test of a lighted roll of paper will show, by the inclination of the flame towards the ascending flue, the existence of an outpouring current of air through the flue. When a fire is made in the fire-place the volume of this exhaust of the chimney is, obviously, largely increased. According to the estimates of General Morin, a blazing fire in an open fire-place may take from the room nearly 40,000 cubic feet of air per hour, or, in other words, it will empty a large room every fifteen minutes. So rapid is the ascending current of outgoing air that it carries with it the smoke and soot, and even small bits of the burning fuel. But the rushing from the room of such an immense volume of air necessarily implies the entrance into the room through some inlets of an equal volume of air from outside sources. When the ordinary form of grate is used this inflowing air enters cold (if directly from outdoors), or not devoid of impurities (if from the adjoining halls). (See Plate No. 24 for cause of chilling draughts.) But a more serious defect in the ventilating offices of the ordinary grate is, that this incoming volume of air, being cold, occupies the lower levels of the room, and passes in a current mainly towards the fire-place, and thence up the chimney, whilst the breath and exhalations from the bodies of the inmates of the rooms, being warmer, ascend to the higher levels, and mix with the air above the breathing line. In the Ventilating Grate, as shown on Plate No. 23, the air entering to replace that exhausted by the chimney comes in with a temperature much higher than that of the breath or other impurities; hence, the latter fall to the lower levels, and are constantly being carried off by the flue, whilst the pure, outdoor air, heated before its entrance, floods the room from above, and supplies an ever-changing, healthful atmosphere to all parts of the room except very near the floor. And at all points of the room, there being no cold air currents, the temperature is exceedingly uniformly maintained.



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.

PLATE No. 26.

## Edwin A. Jackson & Bro., Heat-Saving and Ventilating Grate.

[Reprint from the Report of the State Board of Health of New Hampshire.]

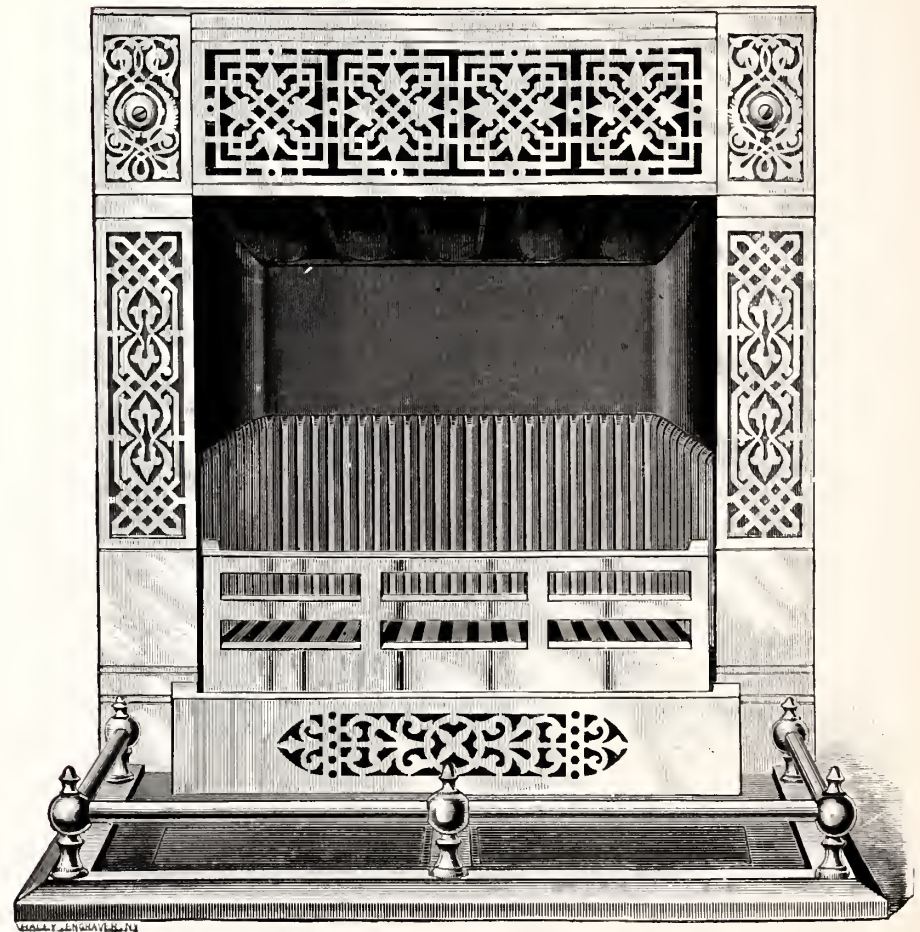
“THE olden time fire-place had its peculiar advantages in ventilating the apartments in which they were situated; and no one will dispute that they still have an attractive appearance, as well as a charming influence in the family circle wherever they are to be found. The only objection is and has been, they are expensive, as they are great consumers of fuel, and much of the heat generated within their glowing sides is lost by being carried up the flue with the air which they remove from the room.

“Mechanics and practical men have for a long time been pondering over the problem how the fire-place of our fathers could be restored in principle, and economy in fuel maintained at a minimum of expense.

“The open grate has always been a favorite in our homes, and it is only because in the ordinary form it is such a great consumer of fuel and so feeble in its heating capacity that it has been supplanted by other and more economical kinds of heating apparatus.

“Mr. Edwin A. Jackson, of New York, has placed before the public a fire-place and grate, combined in such a manner as to give it superior heating power and perfect ventilating capacity.

“In perfecting this most excellent device to meet the requisite conditions to render our homes comfortable and healthful, the designer has rendered valuable service to the people, for he has so far remodeled the ordinary grate that a large percentage of the heat can be saved, and at the same time preserve the chimney flue for ventilating purposes.”



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.



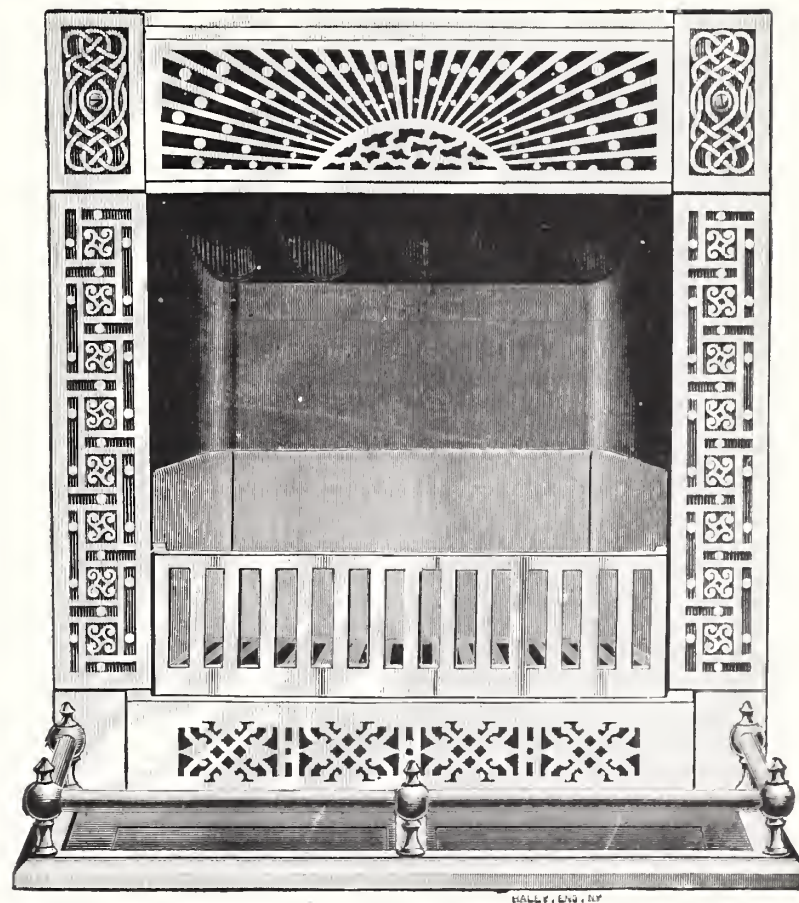
PLATE No. 27.

## Sewer Gas—Bad Ventilation.

THE antidote of Sewer Gas is plenty of fresh air. We probably never shall have the plumbing of houses so perfectly done that our homes shall be entirely proof against the introduction of dangerous exhalations from the waste-pipes or sewers into them. But these and all other unhealthful contaminations of the air in rooms may be rendered harmless by the frequent changing of the atmosphere in them practicable in a proper system of ventilation. That only is a proper system of ventilation which introduces at one point and takes out from another a sufficient volume of air to maintain in the room a constant circulation of pure atmosphere.

Such incoming current must be warmer than the natural temperature of the body, else chilling drafts are perceptible by the discomfort they give. An ordinary grate has this objectionable feature, and though otherwise excellent for its sanitary effects, this great defect must be counted against it. But since health is far more important than thoroughly warmed rooms, if nothing better for ventilating purposes can be found, wisdom would demand its use in every home.

But such a defect is due alone to the improper construction of the grate. The Jackson Ventilating Grate, as shown on Plate No. 24, admits pure air from outdoors, thoroughly heated, by what in ordinary grates is wasted heat, and produces a circulation of pure, warm air in the room that is health-sustaining, and in every way conducive to comfort.

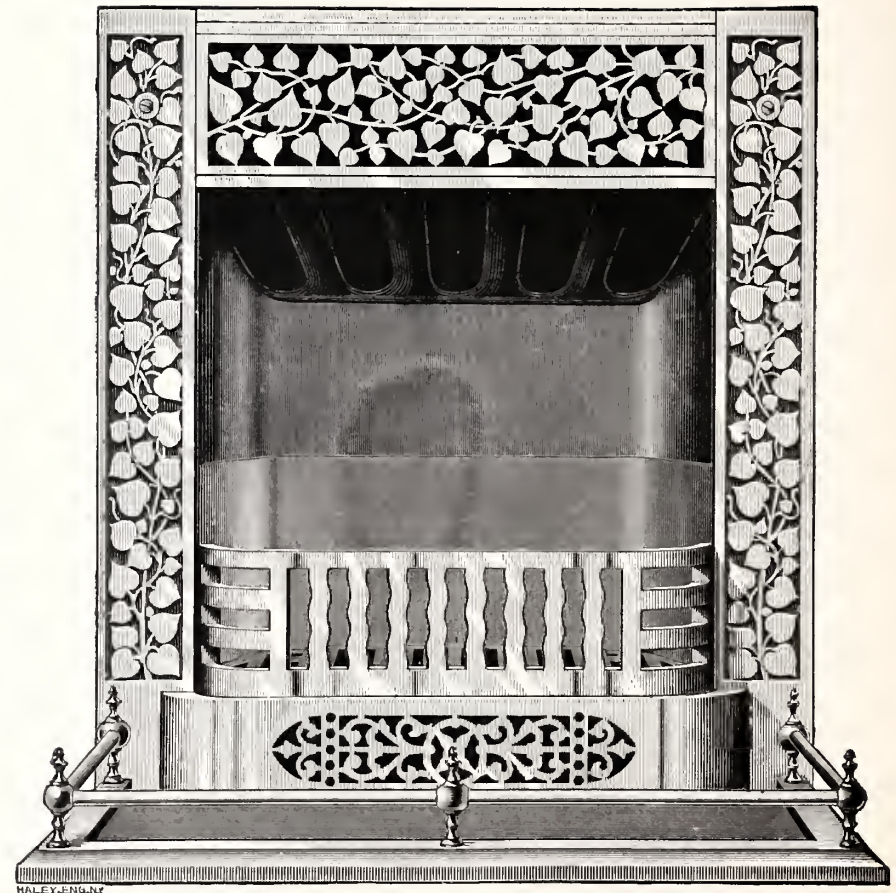


Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.

## Elegant but Unsanitary Homes.

THE reports of the various Boards of Health show that every cold wave that sweeps over our country in winter is attended by a startling increase in the death-rate from Scarlet Fever, Diphtheria, and allied diseases. This direful condition of affairs is largely, if not entirely, due to the fact that the tightly closed doors and windows, which cold weather necessitates, prevent that important ventilation of houses that is positively essential to the maintenance of health. Houses richly adorned and most elaborately furnished with all the conveniences and elegance that skillful workmanship can produce; houses upon which the wealth of the possessor has been lavished without stint, for the purpose of making them comfortable and enjoyable, are, from lack of proper sanitary provisions, ever subject to the entrance of preventable diseases, that bring sickness and death in their train. The very skill of the workman in making houses proof against the cold winds from without, has but added to the danger of the entrance of disease. And this is all due to the fact that, in the building and furnishing of the house, little or no care has been taken to provide every room with a full and constantly changing supply of air—that shall steadily enter from outdoors, and as steadily pass out again as it becomes unfit for breathing purposes. To a certain extent this is attained where furnace or indirect steam heat is supplied in liberal quantity at a low temperature, and where there is likewise an open fire in the room to carry out the vitiated air. The Heat-Saving and Ventilating Grate will furnish this health-sustaining supply of so vitally important air to every room, forcing it into the room in a pure warm current, and taking it out as it becomes vitiated from the lower levels of the room, thus maintaining ever, not only a warmth that shall be comfortable to the body, but a condition of health without which there can be no comfort. See reading matter on Plates No. 24 and No. 25.



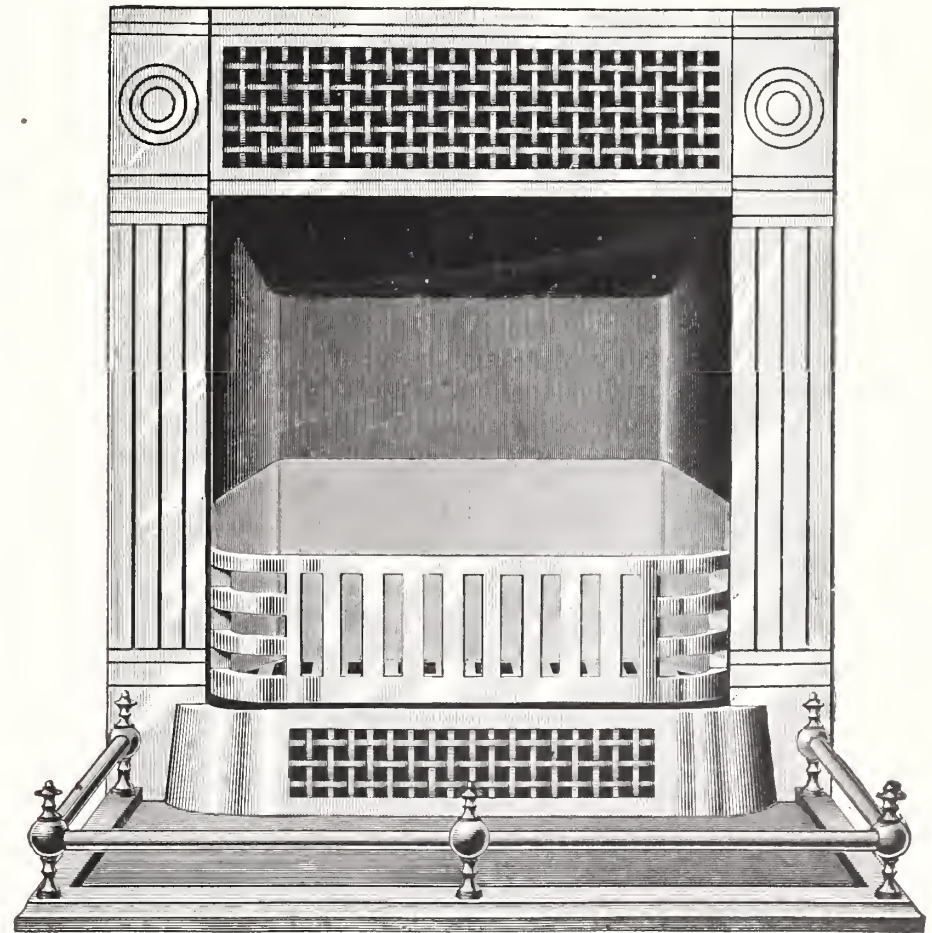
Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.



## Methods of Ventilation.

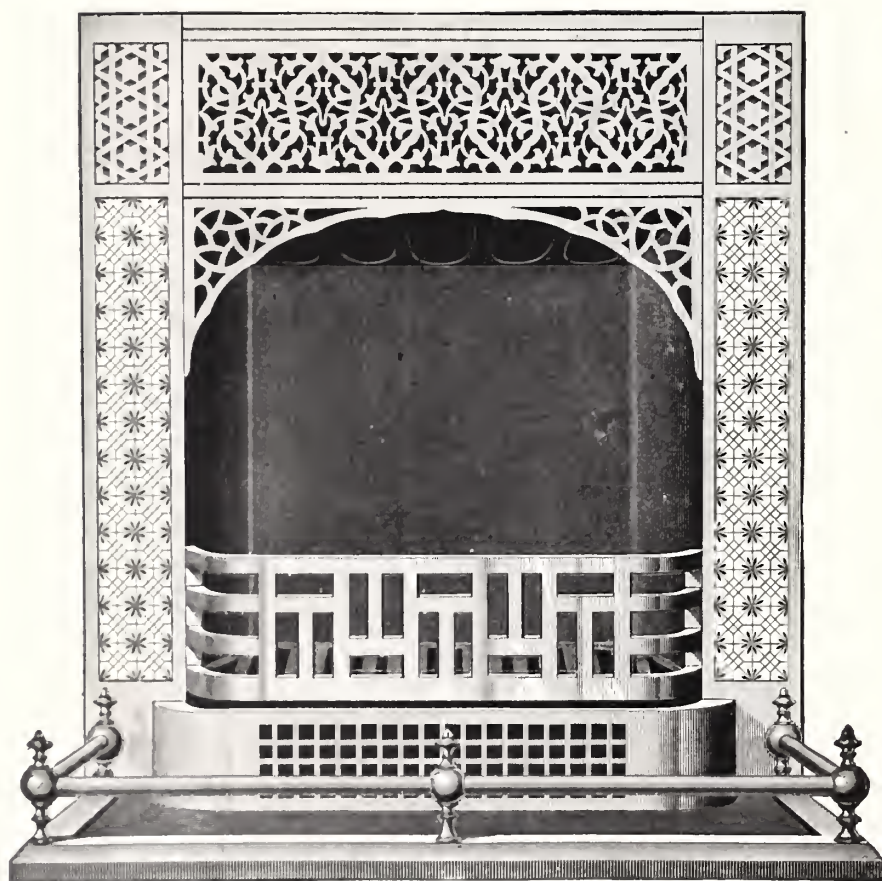
AIR is moved only by inequalities of temperature. Wherever it comes in contact with a heat-imparting body, it expands and immediately rises, giving place to other and colder air, which in its turn expands and rises. Thus every heated body becomes a motor that constantly maintains a circulation of the atmosphere about it. In our dwellings our bodies thus act upon the air, and with the ascending currents, caused by them, rise the breath and other exhalations. But the heat thus imparted is soon given up to the surrounding air, and the current quickly loses its upward motion, and being of greater density because of its impurities, it changes to a downward movement. The most vitiated air will therefore be found nearest the floor. The former custom of placing ventilators near the ceiling was therefore a most egregious blunder, and this was especially so when the rooms were heated by hot-air furnaces, which continually forced into them warmed, pure outdoor air—in that this pure warmed air, and not the vitiated air, would be that which escaped through such ventilators. The fact is, the exhaust needs to be at the bottom of the room instead of the top. That system of ventilation is the correct and perfect one which supplies the room at the ceiling with pure air, heated above the temperature of our breath, and which exhausts, from a point near the level of the floor, an equal amount of the colder air always to be found there, and which would in such a system always contain the almost entire products of respiration and other impurities usual to inhabited rooms. How shall this be effected? Placing near the floor ventilators, such as have been used at the ceiling, would not exhaust air, but admit cold air, unless such ventilators opened into heated flues, the heat in which would induce outward and upward currents through the flue. A hot-air furnace, working as described above, and an open grate, with a good fire therein to exhaust the air from the level of the floor, would perfectly do the work; but it would be an expensive arrangement, and wasteful of heat. That apparatus only is properly constructed which combines the operations of the two in itself. A glance at the construction and workings of the Ventilating Grate, as described on Plate No. 23, will demonstrate how admirably this has been effected.



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.

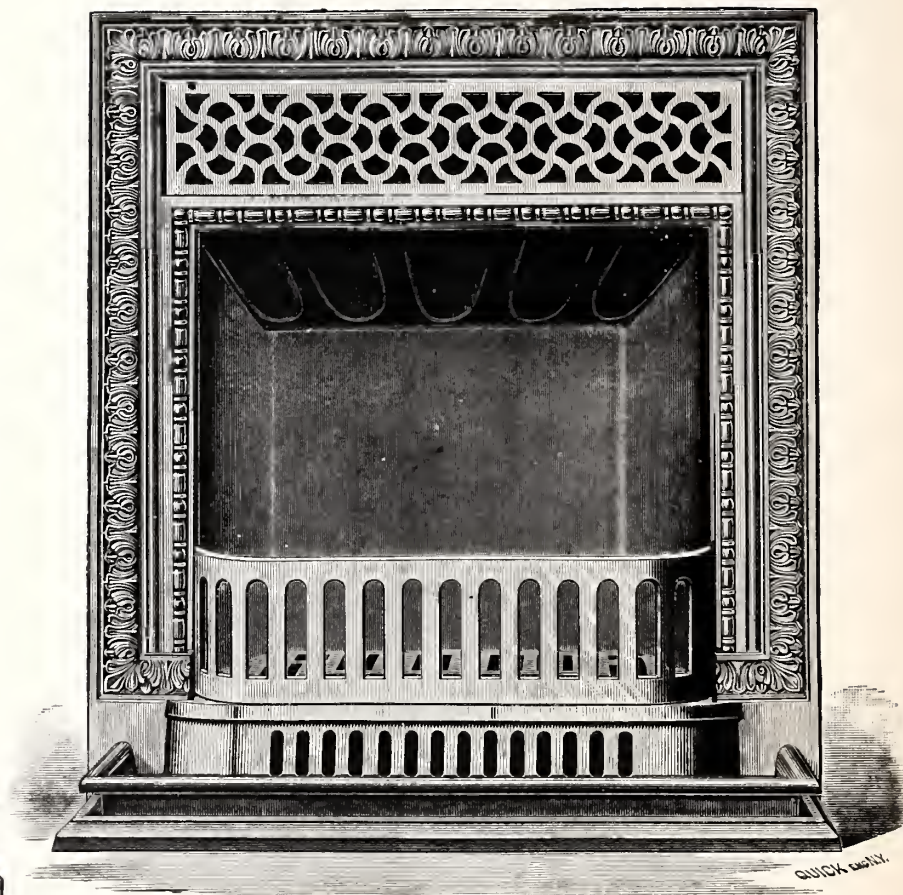
PLATE No. 30.



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.

PLATE No. 31.



Front View.

Scale,  $1\frac{1}{2}$  inches to the foot.



## HEATING A RESIDENCE WITH THE JACKSON VENTILATING GRATE.

### “THE CHEAPEST OF ALL GOOD SYSTEMS OF HEATING.”

---

The principle applied in these grates is the same as that of the furnace, combined with the direct radiation of the open fire. The grate is, practically, a furnace set directly in the room. There is not the immense loss of heat in the cellar and in the ascending hot air pipe, and because of this saving, these grates will heat a residence with two-thirds the fuel of a furnace. They will heat a home with less fuel than any other good system. One grate will heat about 7,000 cubic feet of space, or two or three rooms of ordinary size. Thus, a residence of say eight rooms will take three Oliver grates, costing \$114.00. A GOOD furnace would cost this much or more, and with the grates there is an immense saving of fuel each year. And also, the cheer and comfort of open fires are secured. Send us sketch plan of your residence that we may give estimate of number of grates needed, and reports of the success of our grates as entire heating apparatus.

Mr. J. Albert Williams (Merchant) wrote from Washington, Iowa :

“Our two parlors on the northwest side of the house (a frame dwelling without double sash), with large bay windows, are heated by one of the Grates, our Dining-room and rooms over it, also the Reception hall, by another one, and the Sitting-room and an adjoining Chamber by the third Grate. The Grates heat the house so well we have given up the idea of putting in a furnace.”

Dr. E. E. Peters, of Wrightsville, Ill., has two Oliver grates to heat his residence. One in the parlor, 12x16, heats also a bedroom 12x14 on second floor, a dressing-room 6x9 on second floor, and upper and lower halls, each 6.6x14 ft. The grate in dining-room, 14 ft. 4 in. by 14 ft. 6 in., heats also a bedroom on second floor 11 ft. 2 in. by 12 ft., a dressing-room 6 ft. 3 in. by 8 ft. on second floor, and a bedroom 12 ft. by 13 ft. on second floor. There is no other heating apparatus in house, and in February 28, 1895, after that severely cold winter, Mrs. Peters wrote :

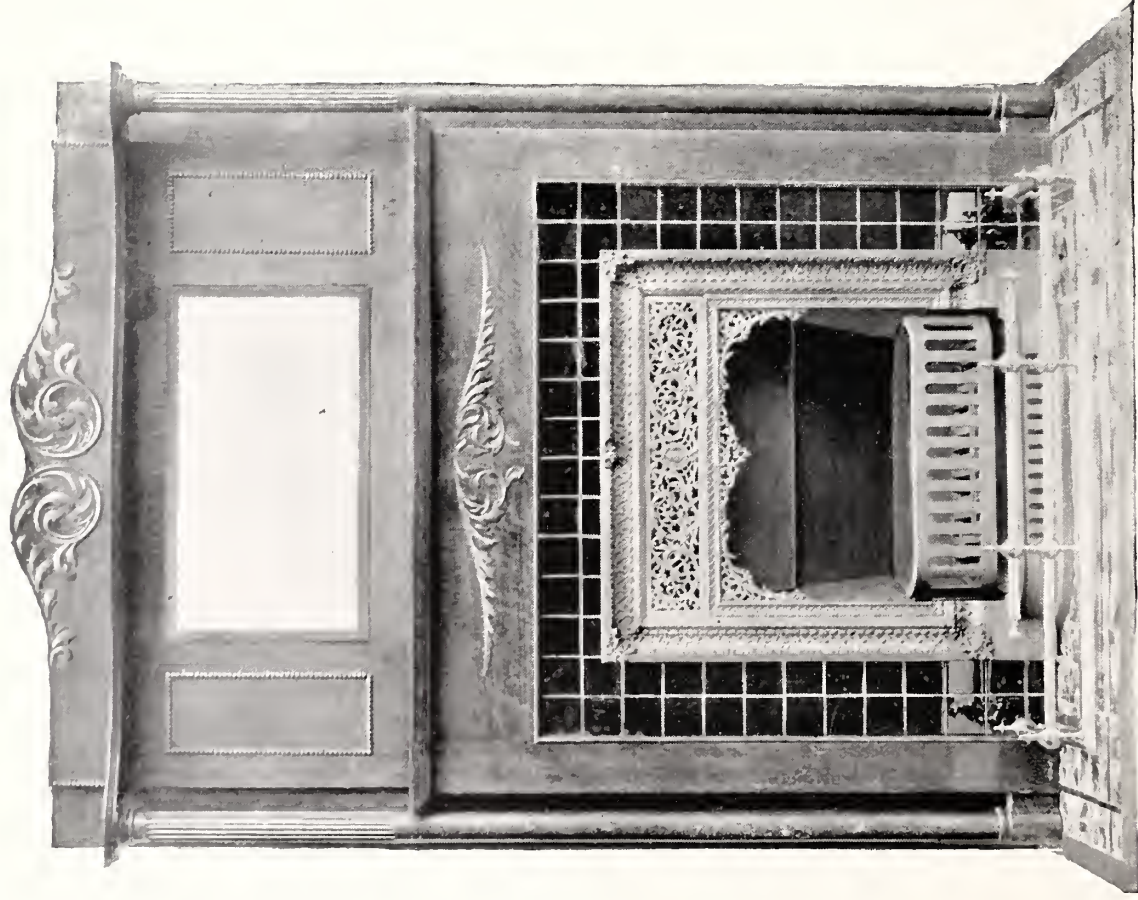
“We think our grates the grandest heaters on earth, making our home delightfully warm, bright and cozy.”

### THE HIGHEST AWARD AT THE WORLD'S FAIR, 1893, WAS SECURED AS FOLLOWS:

#### AWARD :

“For most excellent and artistic forms of Fire-place Heaters, representing the best application of the principles of warming and ventilating with the open fire-place. The result is increased utilization of fuel, perfect ventilation, and uniform distribution of heat in the room.”

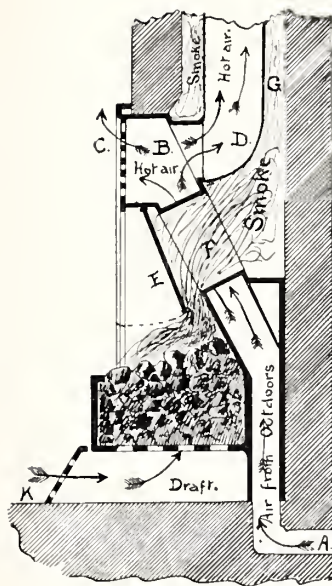
PLATE No. 32.



NOTE.—This Mantel costs \$23.00 without tiling. Hearth and Facing cost \$5.40 extra making Mantel and Tiles \$28.40 complete.



## No. 32 BACK.



**A Curtain Blower** is attached to this back, being designated by the letter E. This should be pulled out when the fire is started, acting as a blower and hood. No portable or sheet iron blower, which is furnished with the other form, should be used with this grate. When pushed back the curtain blower acts as a "check-draft," regulating the current passing up the chimney. It will not get out of order nor wear out in many years.

**The Latest Improvement** in the Ventilating Grates is in the No. 32 back. This, as will be seen by referring to sketch, differs from the old back in that the part above the fire surface slopes forward instead of going up straight to smoke flues. The difference in front appearance is shown in comparing plate No. 32 opposite and plate No. 103 on back cover. The gain is mainly in the radiation in the lower room, the slanting surface reflecting the heat that is partly lost in the older back.

**A Shaking Bottom** can be adapted to this grate, although we advise that the regular bottom be used. There is no shaking bottom adapted to open grates that will not at times be "locked" by a piece of coal or clinker, and although we believe our patent to be the best we do not consider it perfect. The grate may have ashpit or ashpan connection as preferred, but in all cases, where possible, we advise the use of ashpit. It is a great convenience and prevention of dust.

**The Operation** of the grate is shown in sketch: A is the pure air inlet, sending air to the chamber B, passing on the way over the hot air surfaces of the grate back. Being warm, it escapes through the register C, in the lower room, or in the Oliver pattern, goes through the hot air pipe D to the upper room.

The draft of the fire is supplied at K, being the cold and impure air of the room. Passing under the curtain blower E, and through the smoke vents F, the gases and smoke go up the flue, around the hot air pipe. When the Concord pattern is used, there is no connection for hot air pipe.

**Designs Nos. 31 and 32** may be had with this back, for the present, in No. 1 size only, in any finish, in Oliver or Concord pattern. No other designs can be fitted to this back without extra cost.

PLATE No. 36.

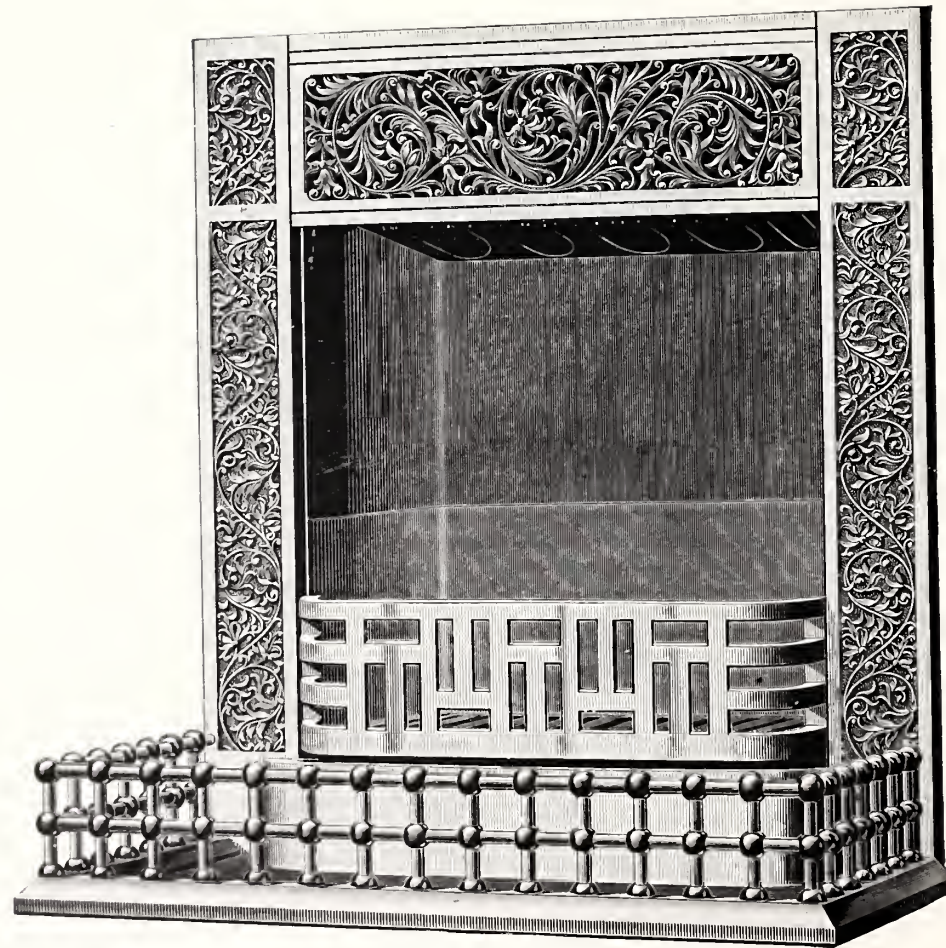
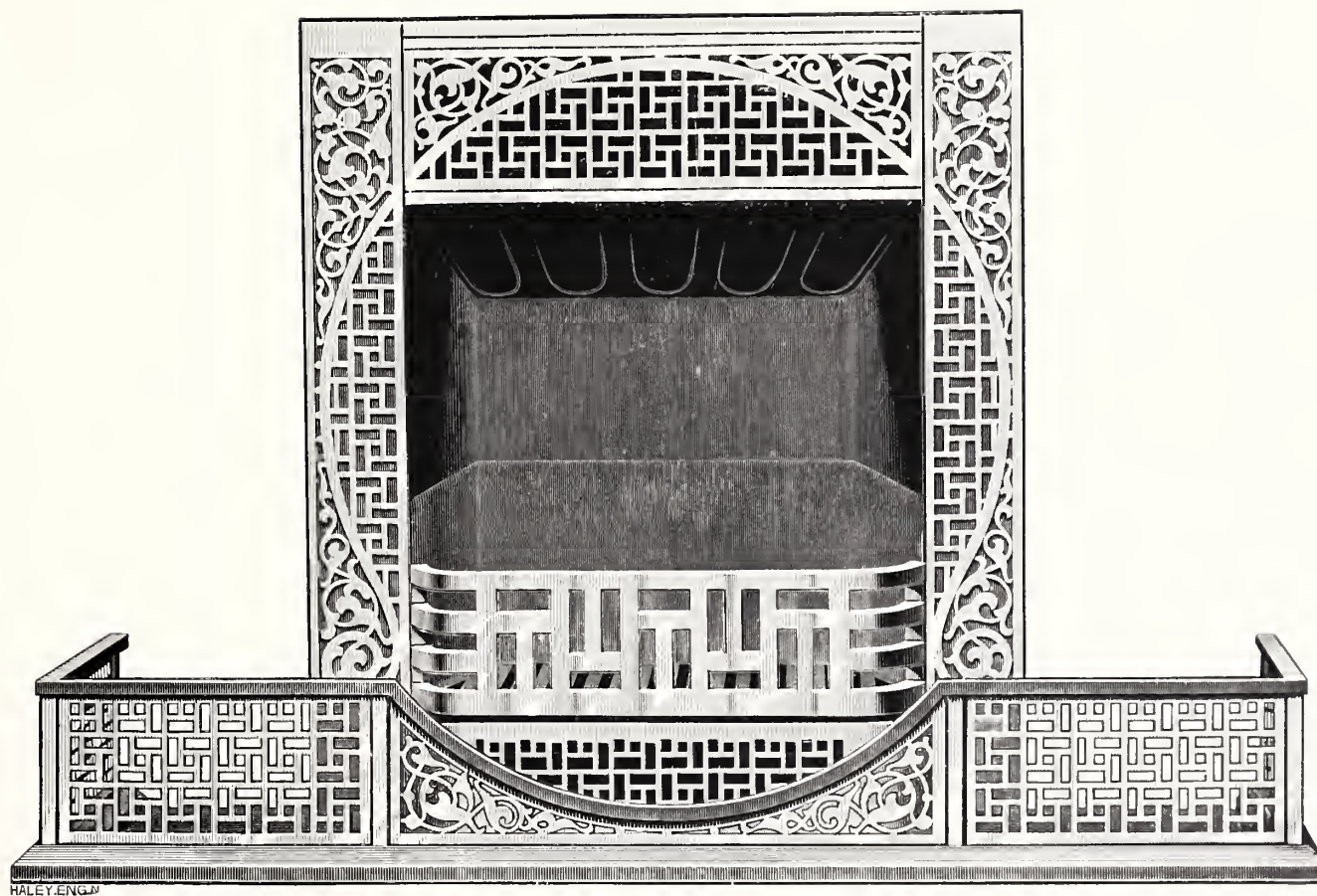




PLATE No. 42.



HALEY.ENG.D

PLATE NO. 43.

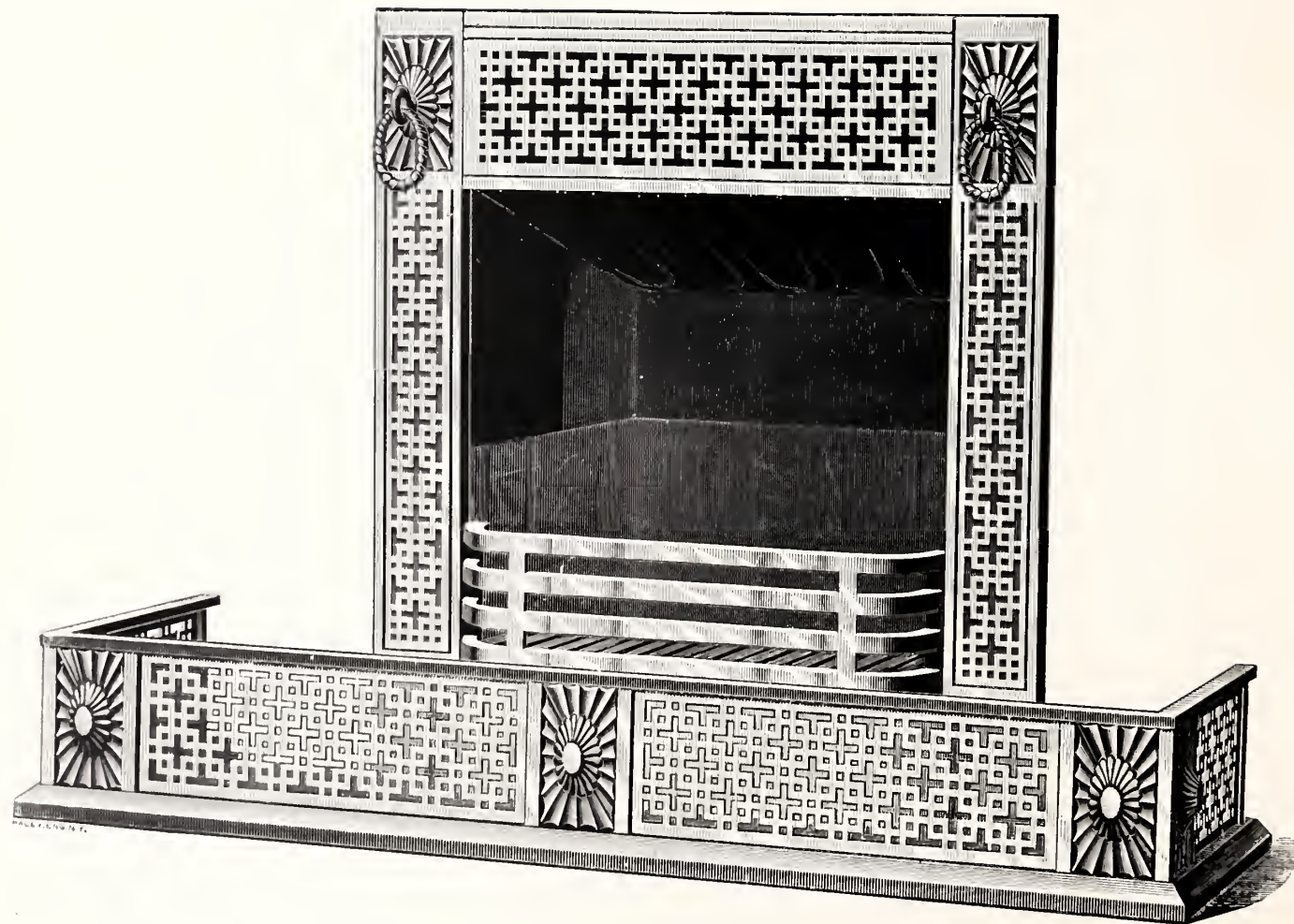




PLATE No. 44.

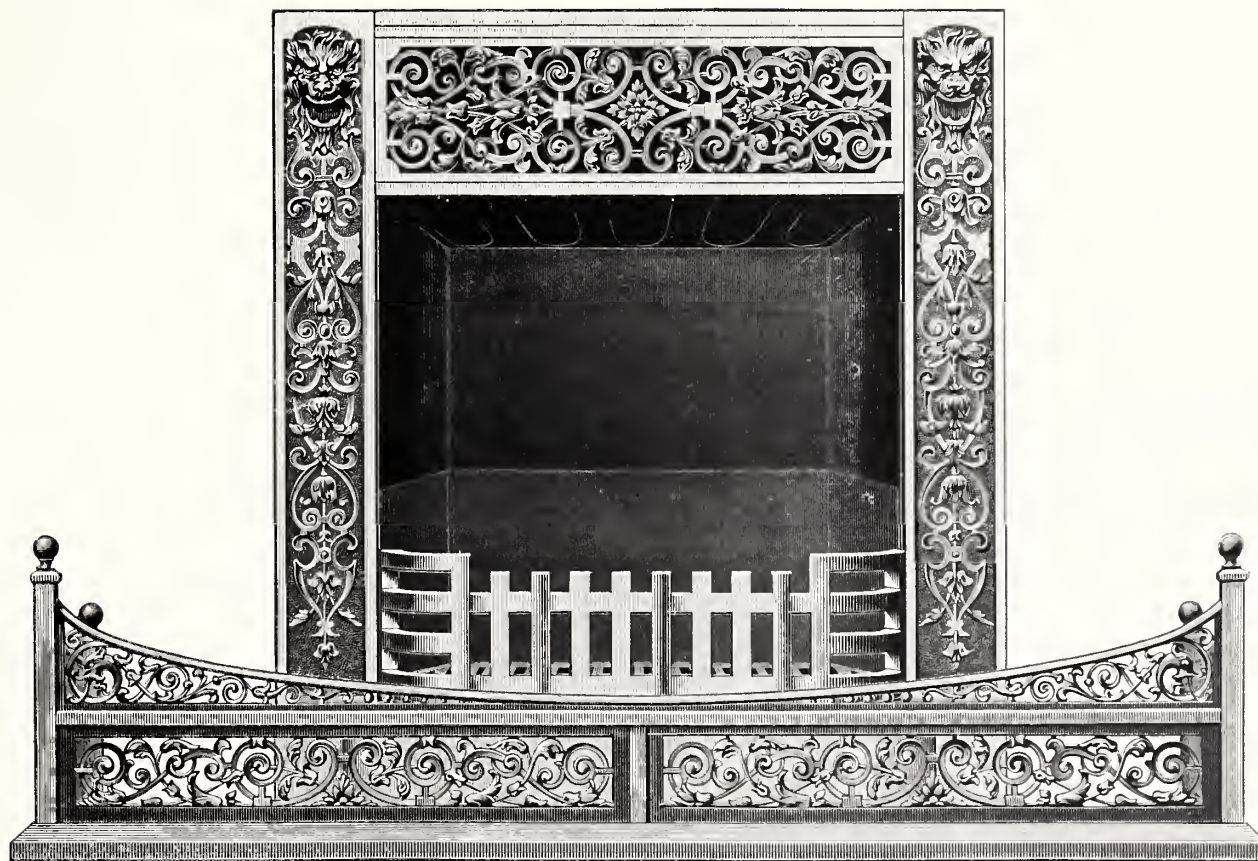


PLATE No. 46.

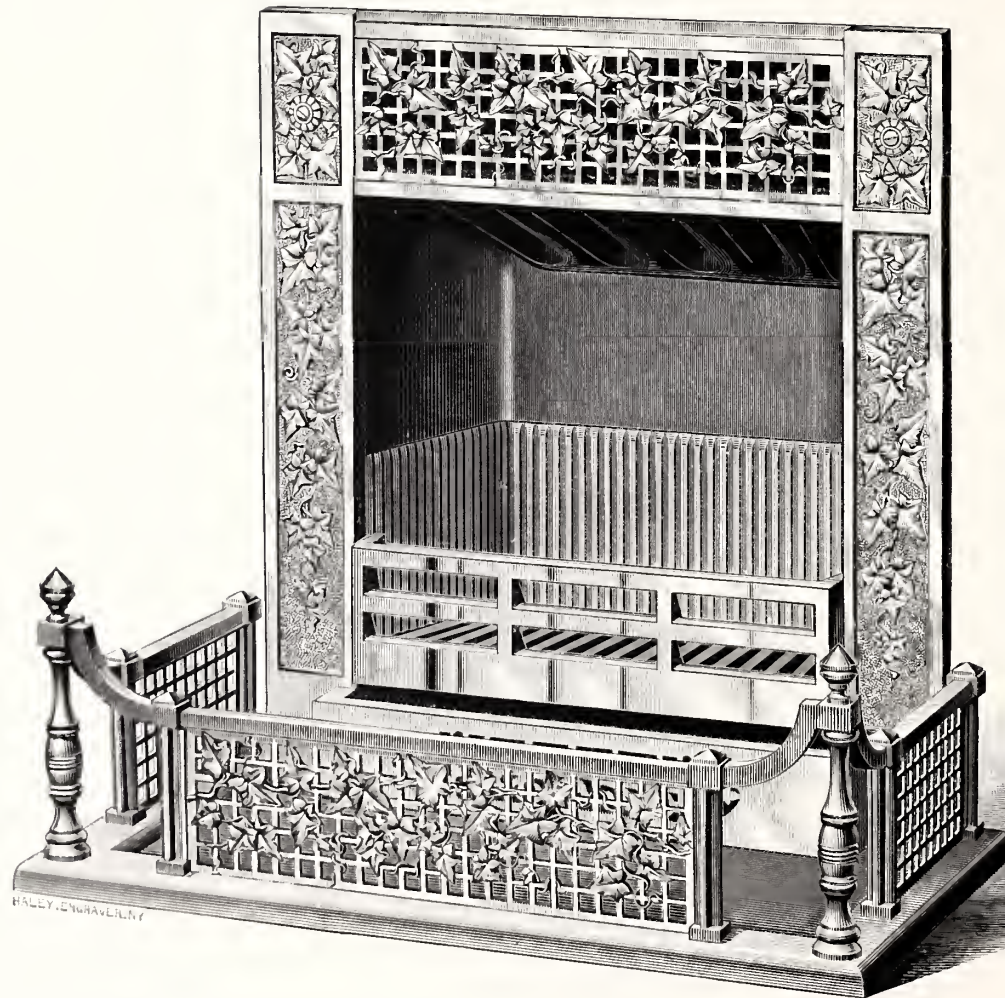




PLATE No. 48.

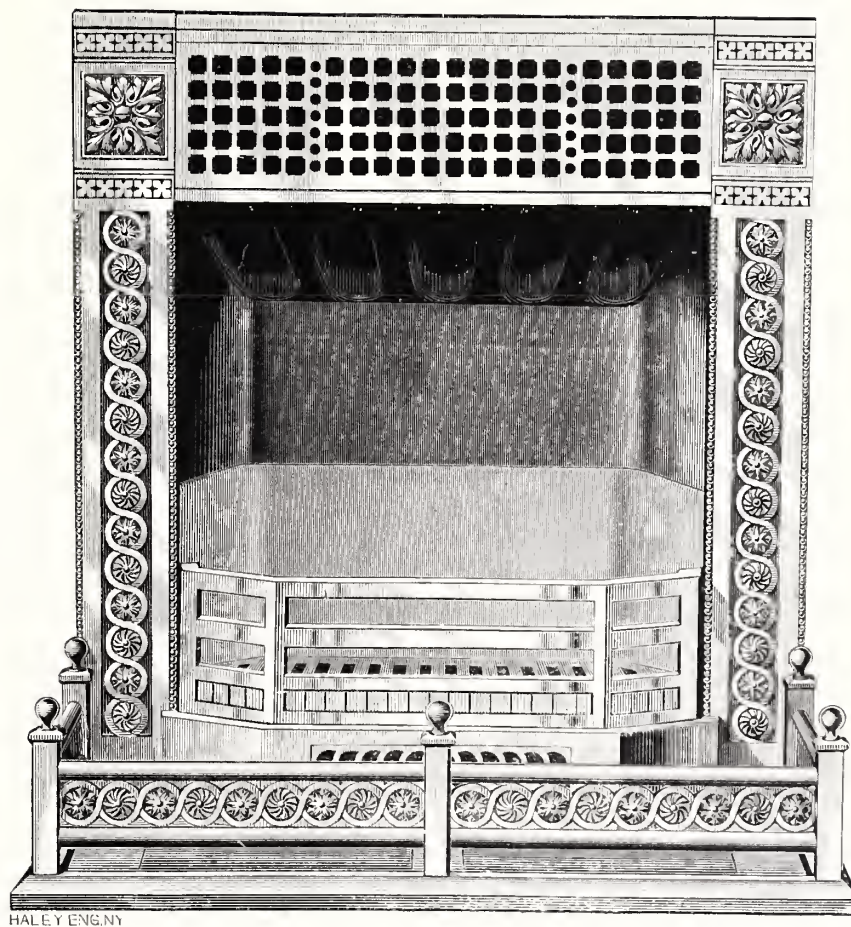


PLATE No. 50.

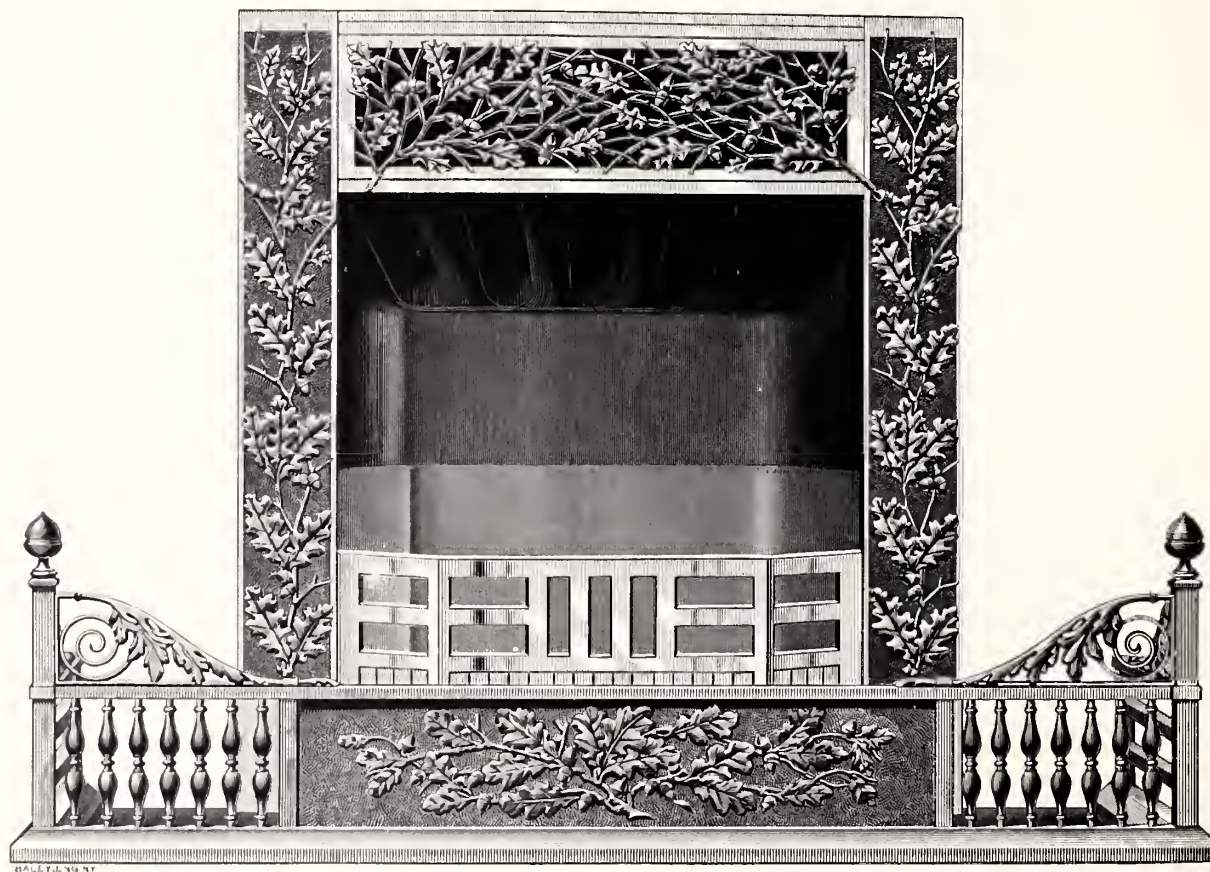




PLATE No. 54.

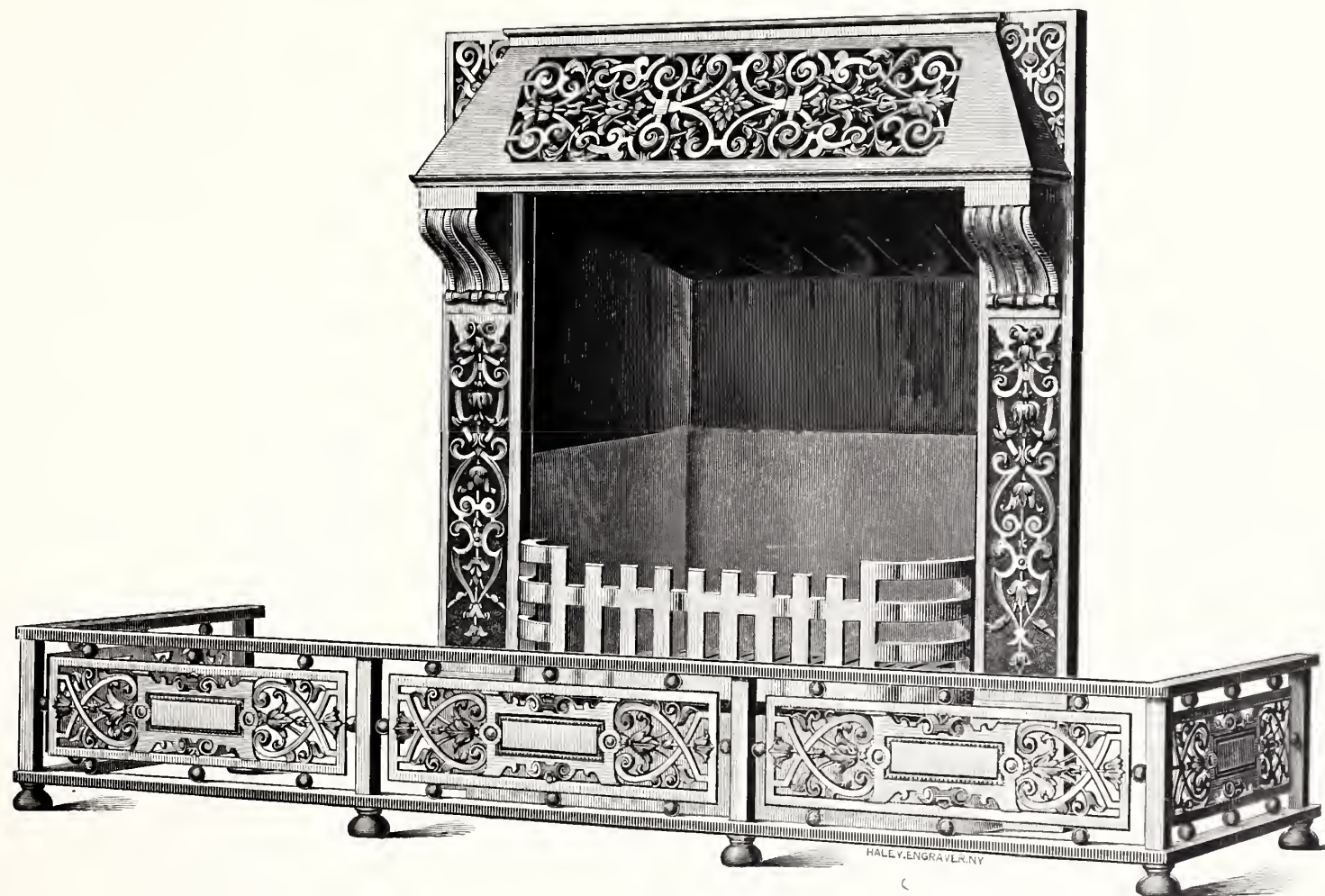
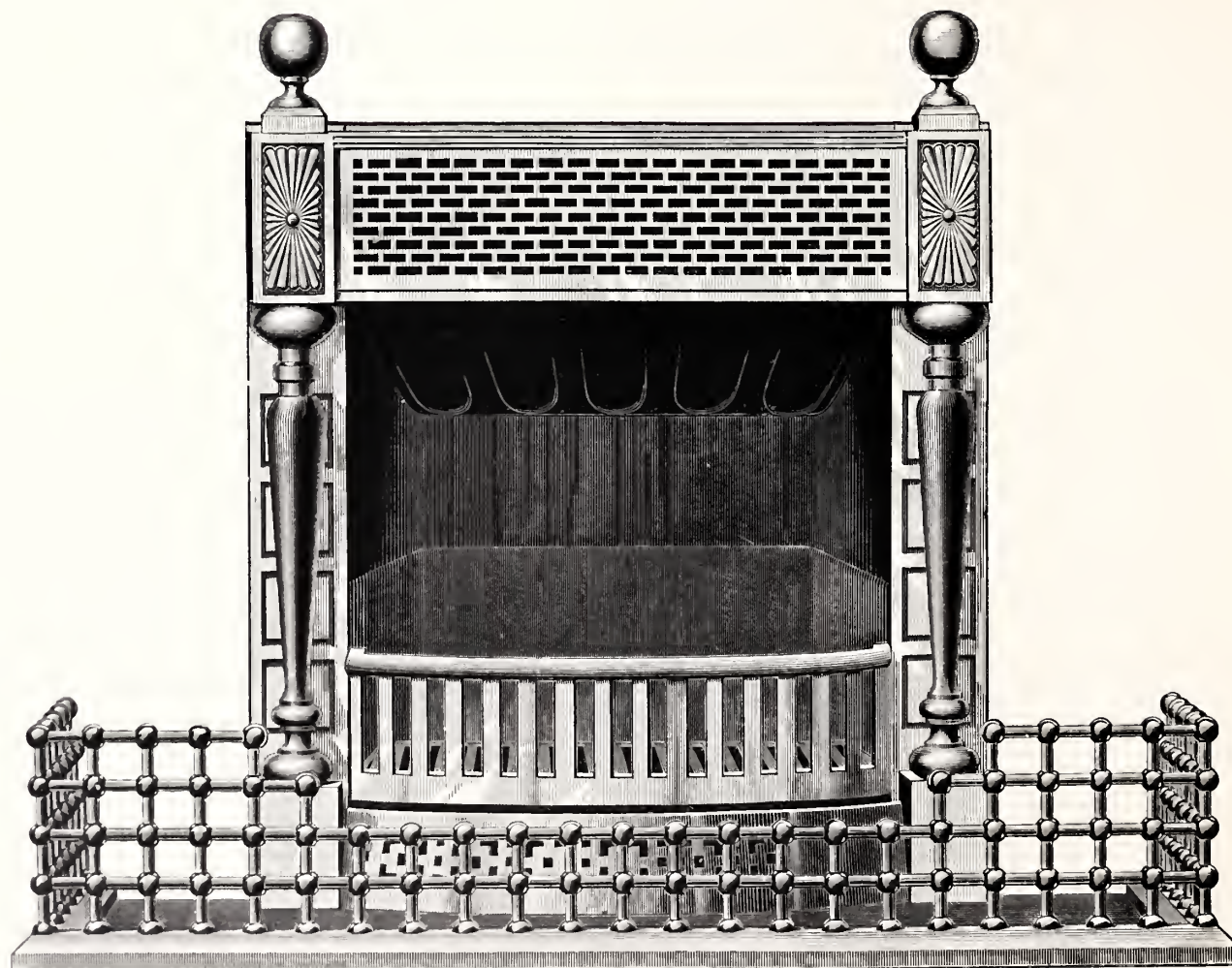


PLATE No. 55.



WILL T. ELLIS, N.Y.



PLATE No. 56.

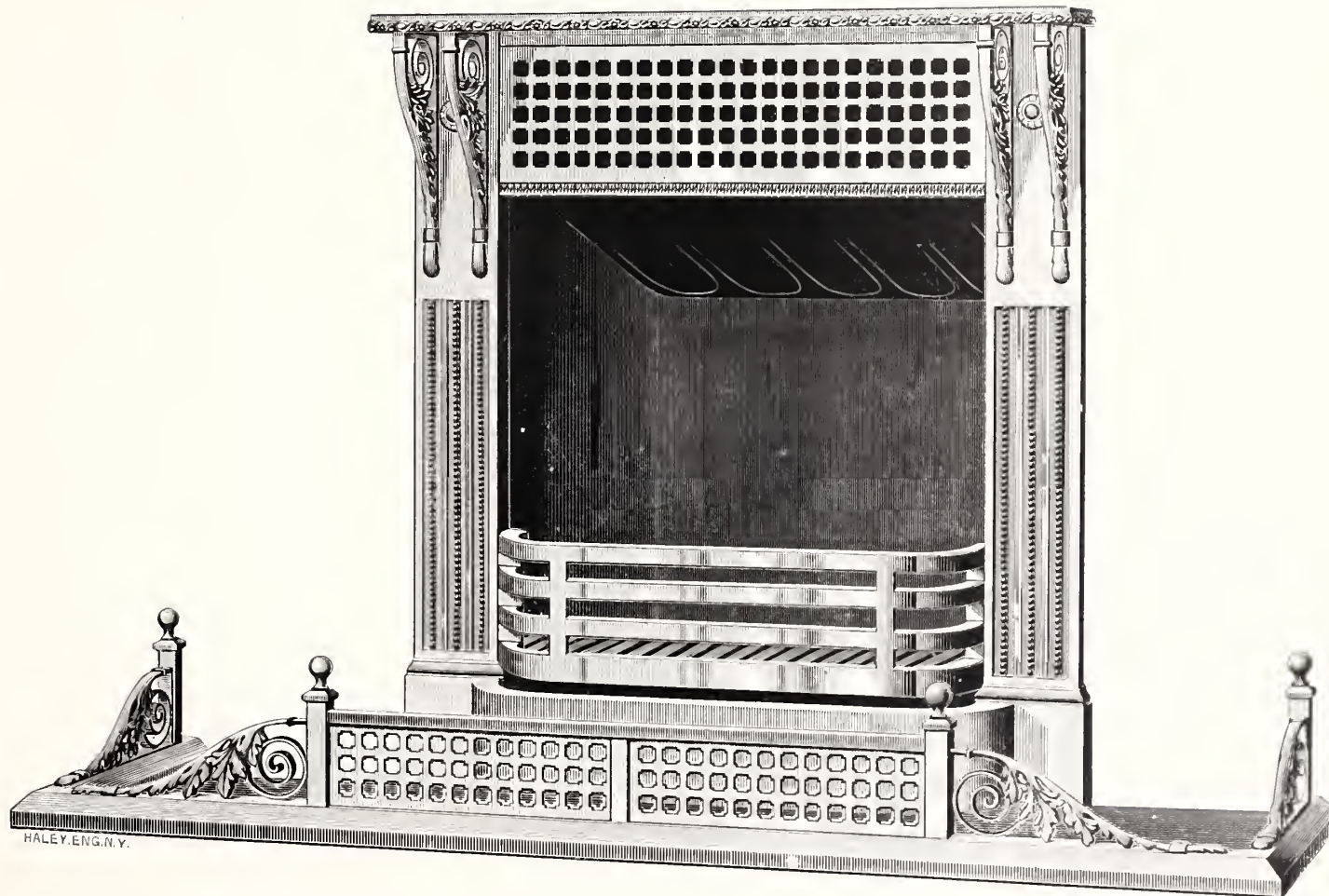


PLATE No. 57.

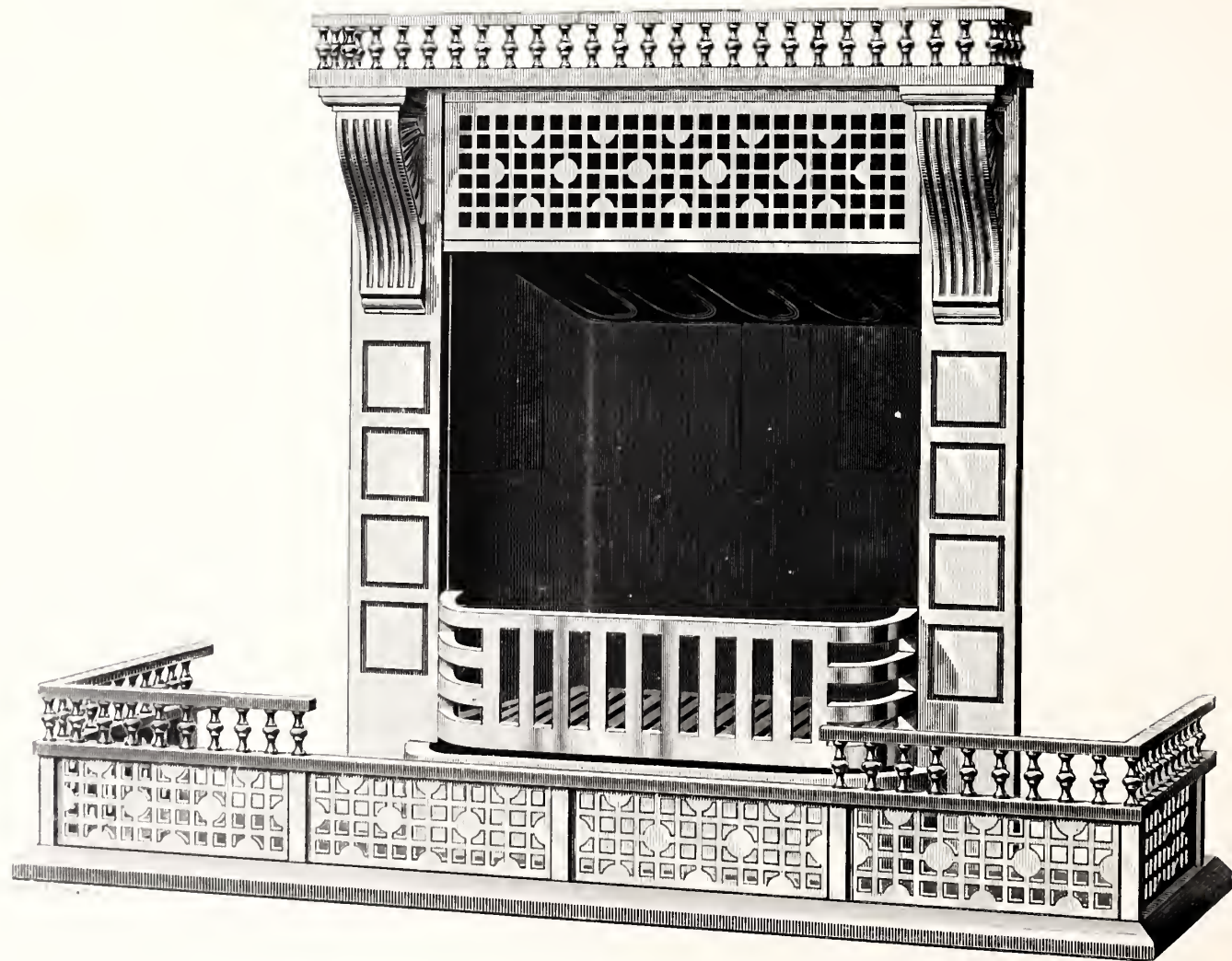




PLATE No. 65.

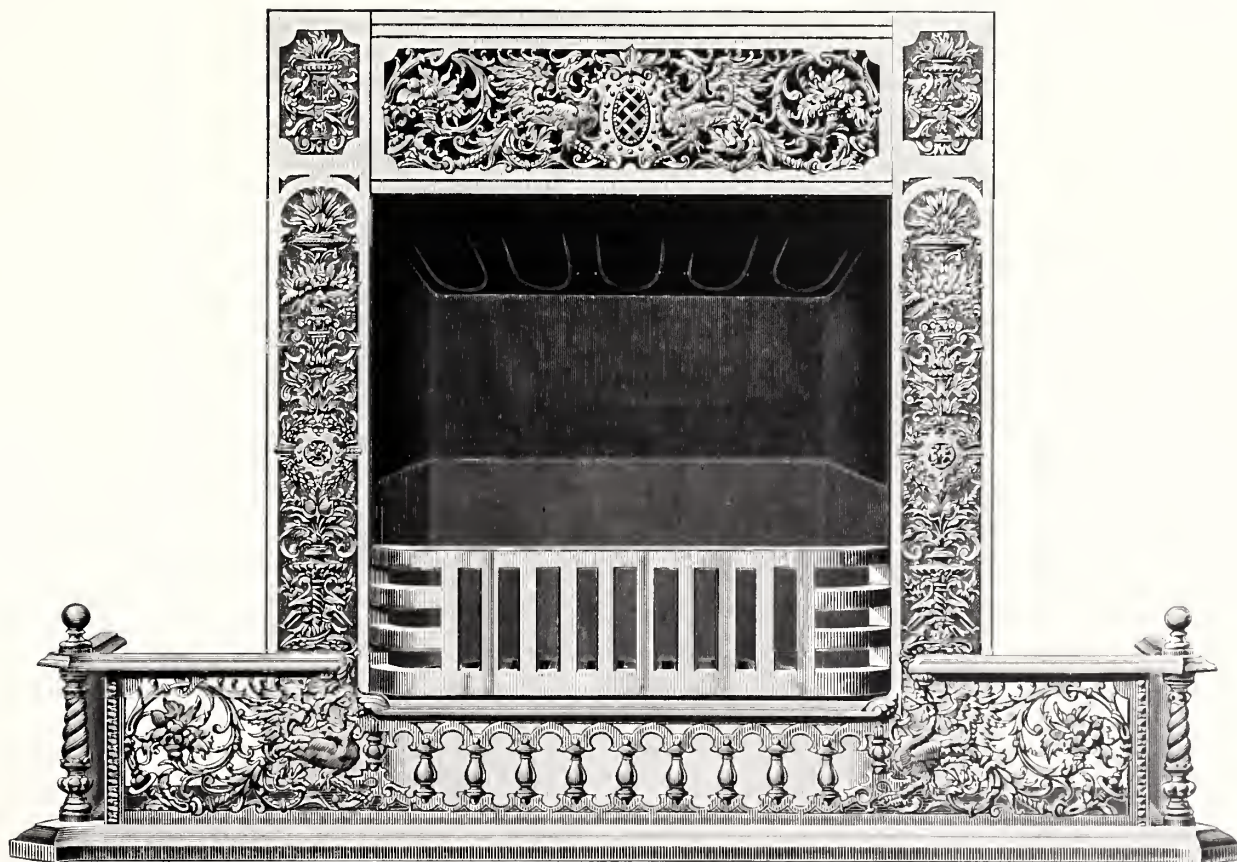


PLATE No. 69.

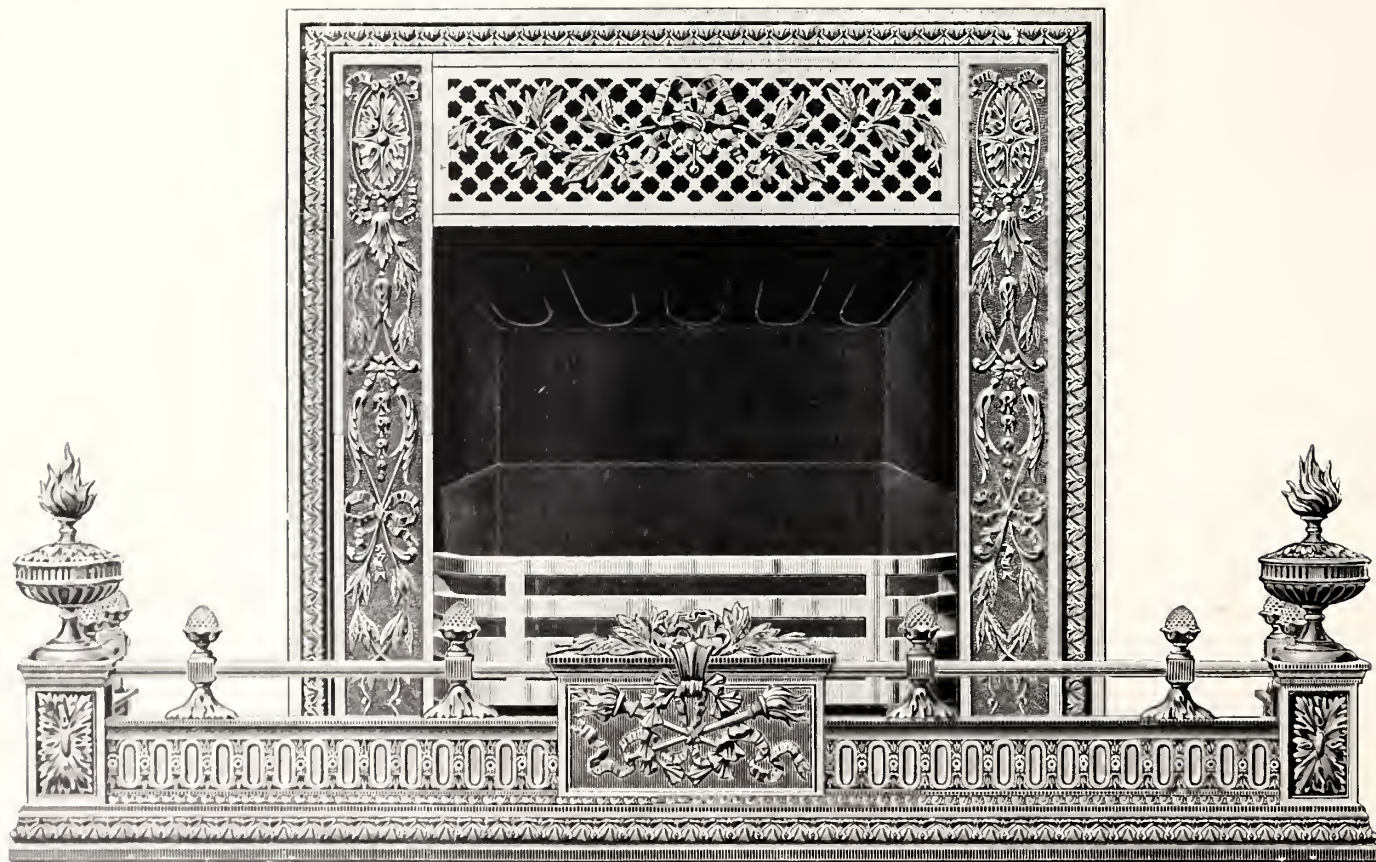
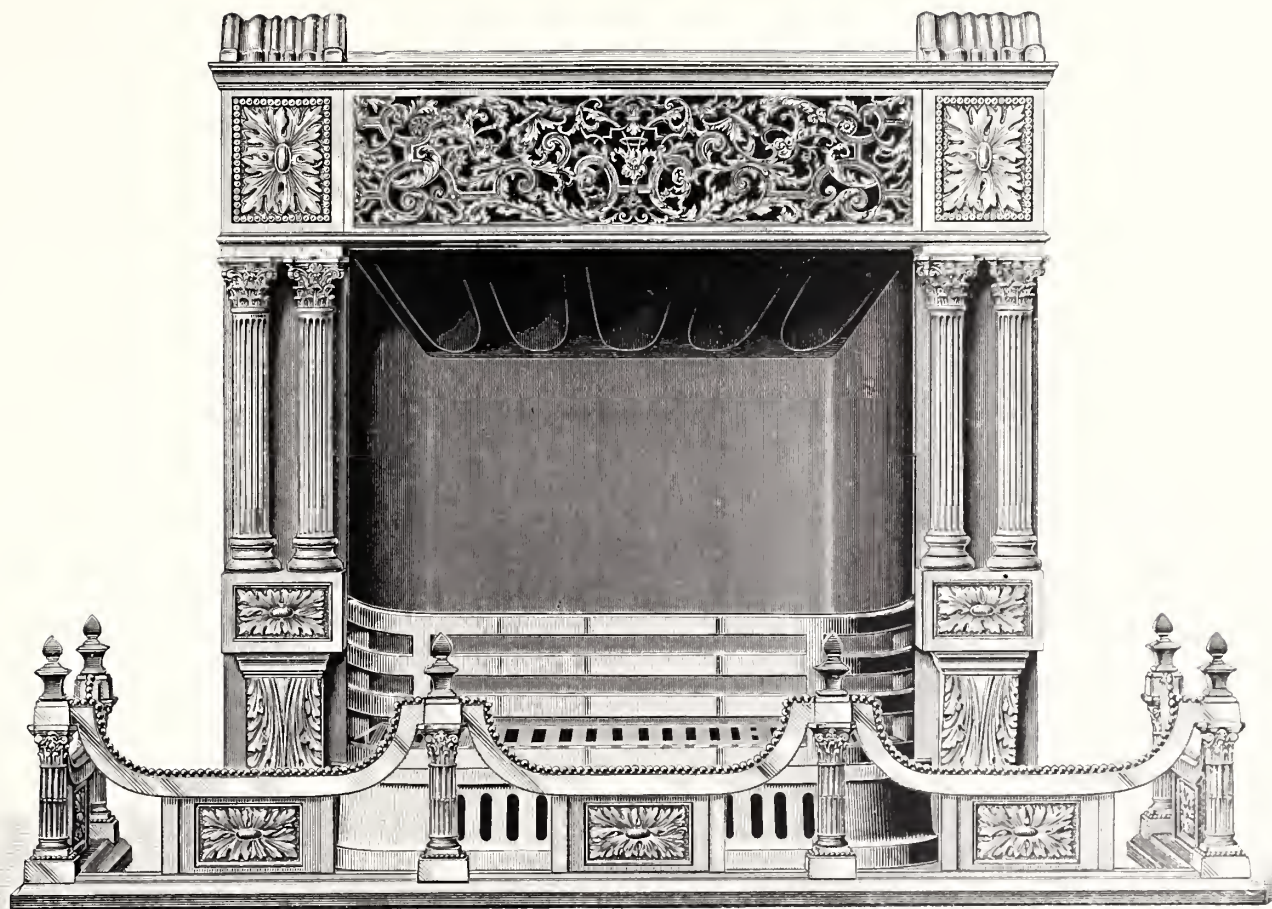
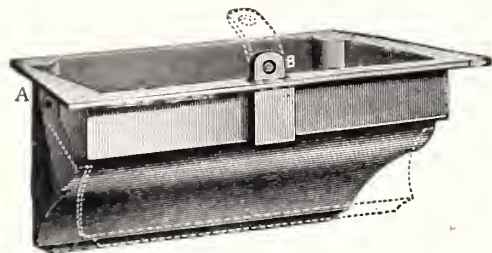




PLATE No. 71.





IT is the experience of all who use grates connected with ash-pits, that, unless the masonry of the pits is unusually well constructed, so that there is an entire absence of crevices in the brick-work, and the door below is particularly well fitted, an intolerable nuisance of dust and ashes is experienced whenever the fire is raked. This arises from the fact that when hot ashes are dropped into the cold air of the pit, an upward current is started, which, drawing its supply through every minute opening of the ash-pit, creates a decided draught that wafts the ashes into the room above, depositing dust upon objects surrounding the grate.

To prevent this upward escape of dust *entirely*, even from the most carelessly constructed ash-pits, the JACKSON ASH-TRAP, a sketch of which is appended, has been invented.

It consists, as is shown, of a rectangular box, the bottom of which fits obliquely upon it, and is adjusted by a pivoted hinge A, being so arranged that, by a slight pressure with a poker on the projection B,

the bottom, or valve, is withdrawn from under the ashes, and assumes the position shown by the dotted lines, and when the pressure is removed from B the valve instantaneously closes, excluding all dust from the room. The action is "as quick as a wink," requires the slightest pressure only, and never fails to be effective.

The Traps are constructed to fit the JACKSON VENTILATING GRATES, and can be placed in any of them in a few moments by simply taking out the screws from the sifter, removing it from the base of the grate and inserting the trap in its place—requiring no mechanical skill whatever.

For use in any other fire-place where ordinary grates are in service, a border is supplied for holding the trap securely over the mouth of the ash-pit.

The price of the ash-trap, securely packed for transportation by Express, is, when used with the JACKSON VENTILATING GRATES, \$1.35.

When adapted for other grates, \$1.50.

#### Reports :

"I consider your ash-trap indispensable for neatness and convenience."

H. M. JOHNSON, St. Johnsbury, Vert., Feb. 17, 1894.

"I use the ash-trap and now think the Grate is perfect, being free from dust."

S. B. AMORY, Fond-du-Lac, Wis., Dec. 17, 1889.



## Spark Guards.

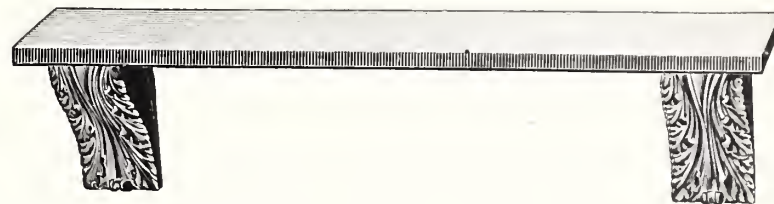


ing the entire opening of the grate with a screen of wire cloth ( $\frac{3}{16}$  inch mesh), which, being heavily brass bound, is durable and of sufficient weight to sit firmly against the grate. These are sold in japanned wire cloth, ornamented with polished brass handles, etc., for \$4.00; in nickel-plated wire cloth for \$6.00; in brass wire cloth, \$8.00.

FOR protection against fire that may be occasioned by the sparks that are frequently thrown from wood fires, especially those of hickory or pine wood, also against children setting their clothes on fire when playing near the grate, also for providing an absolute sense of security when fires are left burning over night, we make a Spark Guard, as shown in the annexed cut, closing

## Mantel Protectors.

NO mantel properly made needs protection against a grate fire, as the heating power of the grate should be in no wise hampered. Still, mantels of wood are sometimes made to overhang the fire in such proximity as to be scorched or blistered by the radiant heat. To prevent

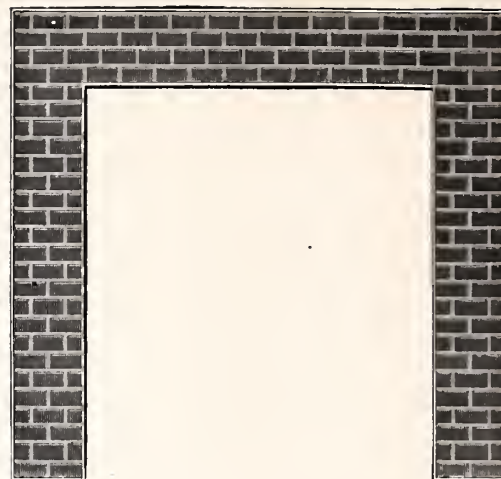
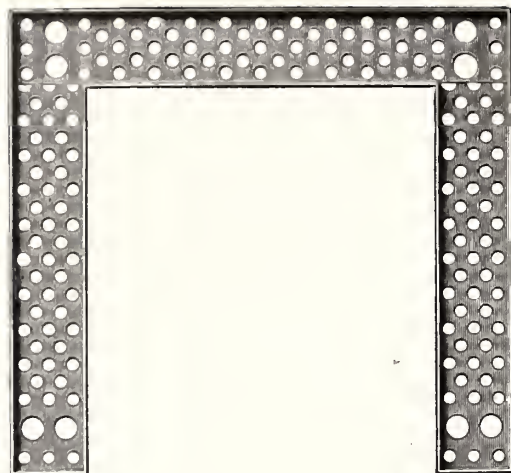


this we make a mantel protector, which is in the form of a shelf and brackets (as shown in the above cut). This is readily put on any of our grates by slightly withdrawing the screws at each corner of the frame at the top sufficiently to allow the hooks on the mantel protector to slip back of the frame of the grate.

These protectors are ornamental, and add to rather than detract from the beauty of the grate. They are made in oxidized iron (dead black in appearance) for \$4.50; in nickel plate for \$5.00; in solid brass (polished shelf and chased brackets), \$10.00.

EDWIN A. JACKSON & BRO.

No. 50 Beekman Street,  
New York City.



### For Setting Tiles.

I N places remote from the larger cities it is frequently difficult to find a mason who has had experience in setting tiles, and who knows how to put up tile facings. To meet such cases we have adopted the plan of setting the tiles in iron frames, especially made for the purpose, as shown in the engraving on the left. These have a flange or turned-up edge that retains the tiles in position, until they are securely embedded in plaster of paris, which in the form of a thin mortar is poured through the openings shown in the cut. When the mortar solidifies, it keys the tiles and the frame together as a solid piece.

The advantages of setting tiles in this way are, (1st) that a good, straight and smooth job is always assured ; (2d) the facings can be set in the mantel in a few minutes by any one not skilled in tile work ; (3d) the tiles thus set are permanently set, whilst those set in the ordinary way are, frequently, soon loosened by the expansion and contraction of the brick-work surrounding the fire, on which they rest.

EDWIN A. JACKSON & BRO., No. 50 BEEKMAN STREET,  
NEW YORK CITY, U. S. A.



## NET PRICES F. O. B. CARS NEW YORK.

Price list of grates without fenders, No. 1 size, heating on one floor only, including valve to regulate cold air supply, also valve to regulate draft.

Design.	Lustered	Rustless.	Black Enamel.	Nickel, Ebony or Electro-Bronze.	Brass.	Bronze.	Silver.
20 to 30 inclusive..	35.00	40.00	42.00	50.00	60.00	65.00	75.00
31 .....	32.00	38.00	40.00	58.00	65.00	70.00	80.00
32 .....	36.00	42.00	44.00	58.00	65.00	70.00	80.00
36 .....	36.00	42.00	44.00	52.00	65.00	70.00	80.00
42 .....	36.00	42.00	44.00	52.00	60.00	65.00	75.00
43 .....	38.00	44.00	46.00	55.00	70.00	75.00	85.00
44 .....	38.00	44.00	46.00	55.00	80.00	85.00	95.00
46 .....	38.00	44.00	46.00	55.00	80.00	85.00	95.00
48 .....	38.00	44.00	46.00	55.00	80.00	85.00	95.00
50 .....	36.00	42.00	44.00	52.00	75.00	80.00	90.00
65 .....	36.00	42.00	44.00	52.00	75.00	80.00	90.00
54 .....	NOTE.—These designs can be had only in brass, bronze, or silver.				100.00	110.00	125.00
55 .....					110.00	120.00	135.00
56 .....					90.00	98.00	110.00
57 .....					110.00	125.00	140.00
69 .....					100.00	108.00	120.00
71 .....					130.00	140.00	160.00

Size No. 3 may be had in above designs for \$5.00 extra, in any finish except brass, bronze or silver. The last three finishes cost \$10.00 extra.

Size No. 5 may be had in any design for \$40.00 extra.

Size "00" is made with No. 31 frame only, costing the same as No. 1 size.

### Oliver Pattern Costs \$6.00 Extra.

The price of the Oliver grate includes valve to regulate cold air supply, the valve to regulate draft, valve to turn heat up or down stairs, register in frieze to turn heat off below entirely when desired, the register and register box for one room above, also the first joint of hot air pipe.

NOTE.—Designs Nos. 31 and 32 may be fitted to No. 32 back, in Concord and Oliver patterns in No. 1 size only, and to the regular back in all sizes. Unless otherwise specified, No. 32 back will be forwarded with these designs.

## EXTRA COST OF FENDERS.

	Lustered.	Rustless.	Black Enamel.	Nickel, Ebony or Electro-Bronze.	Brass.	Bronze.	Silver.
No. 20 to 30 fender	2.75	7.30	7.30	10.75	12.75	13.00	15.00
31 "	3.00	7.00	7.00	10.00	12.00	12.50	15.00
32 "	4.50	6.15	6.30	9.30	10.85	11.00	14.00
103 "	3.00	4.15	4.30	7.30	8.85	9.00	12.00

THESE FENDERS CAN BE HAD IN BRASS, BRONZE OR SILVER ONLY.

Design.	Brass.	Bronze.	Silver.	Design.	Brass.	Bronze.	Silver.
36 .....	28.00	32.00	45.00	54 ....	37.00	41.00	55.00
42 .....	30.00	34.00	45.00	55 ....	38.00	42.00	57.00
43 .....	36.00	40.00	50.00	56 ....	24.00	28.00	43.00
44 .....	27.00	31.00	45.00	57 ....	32.00	36.00	50.00
46 .....	35.00	40.00	50.00	65 ....	56.00	60.00	75.00
48 .....	24.00	28.00	40.00	69 ....	110.00	115.00	130.00
50 .....	30.00	34.00	45.00	71 ....	48.00	52.00	65.00

Length of fenders Nos. 103 and 32 should vary with mantel, being 4 feet or less. These designs are all very heavy and made in best manner. Designs Nos. 103 and 32 can be had in brass in the weight usually supplied by other dealers for \$5.00 and \$5.75 respectively, in 36-inch length.



PLATE 103.